

Homemakers' Opinions

ABOUT SELECTED
CULINARY PRODUCTS
AND PRODUCTIONS
A NATIONWIDE SURVEY

U.S. DEPARTMENT OF AGRICULTURE
STATISTICAL REPORTING SERVICE

PREFACE

This report concerns homemakers' opinions and attitudes about selected fresh citrus fruits and processed citrus products. It is one of a group of studies conducted by the Special Surveys Branch, Standards and Research Division, Statistical Reporting Service, U.S. Department of Agriculture, to determine consumer reactions to agricultural products. The project was designed to provide guidelines for education and information programs and product improvement research.

The study was conducted under the general direction of Margaret Weidenhamer, Chief, Special Surveys Branch, SRS. Advice was provided in the planning stage by subject matter specialists in USDA, the Florida Department of Citrus, and Sunkist Growers, Inc. Opinion Research Corporation, Princeton, N. J., under contract with USDA, designed the sample, developed the questionnaire, collected the data, and prepared a draft of the report.

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HIGHLIGHTS

Oranges--peeled and eaten or squeezed for juice--top all other citrus fruits in popularity in U.S. households, according to a nationwide consumer survey conducted by the U.S. Department of Agriculture in 1968. About 9 in 10 homemakers reported using fresh oranges and orange juice in the 12 months preceding the interview. Approximately 7 in 10 said they had used fresh grapefruit, lemons, and at least one of the processed lemon products in the same period.

Orange Juice

Use of orange juice at least once a week was reported by over 7 in 10 homemakers. About 4 in 10 indicated that they have served it almost every day.

Orange juice can be counted as one of the favorite beverages of most individuals. According to homemakers, they and a large majority of their household members could be characterized as "liking orange juice very much."

In terms of incidence and frequency of use, frozen orange juice concentrate led all other forms during the 12 months prior to the interview.

Each homemaker was asked to select from various alternative characteristics those which best described her family's concept of the ideal orange juice. Although respondents showed a slight preference for unsweetened over sweetened orange juice and for a smooth product over one that contained some orange pieces or pulp, the findings indicate that the market for this product is highly diversified and can best be met by a variety of products.

Imitation Orange Drinks

Consumer awareness of three orange drinks (Awake, Start, and Tang), when averaged, was fairly widespread at the time of the interview. However, the level of consumer knowledge with respect to form and content of these products varied considerably. Most homemakers who had purchased one or more of these three brands of orange drink in the 12 months prior to the interview said that they plan to continue using these products about as frequently as in the past.

Image Ratings of Six Products

Homemakers were asked to rate three forms of orange juice (fresh home squeezed, frozen concentrate, and canned) and three drink products (Awake, Start, and Tang) on nine criteria.

On taste and flavor, nutritional value, as a drink for children or adults, a snack or after school drink, and for breakfast, fresh (home squeezed) orange juice was the favorite, receiving the highest proportion of excellent ratings. However, it drew more negative ratings than the other products on convenience (ease of use), ease of storage, and on cost (giving value for the money).

The popularity of frozen orange juice concentrate is well documented by its rating scores. Although this product received the highest proportion of "excellent" votes only on the criterion of cost, it received relatively few negative ratings (not so good or poor) on all nine factors.

Canned orange juice is liked mainly because homemakers find it convenient to use. Taste appeared to be the major deterrent to greater acceptance of this product.

Awake, Start, and Tang, when averaged, ranked about on a par with canned orange juice on all factors except ease of storage. On this factor they were rated higher than canned and fresh home squeezed, but on a par with frozen concentrate.

New Orange Juice Products

One objective of the study was to determine consumer reactions to three new products made from real oranges. The products were described to respondents as follows:

Instant orange juice -- powder or crystals that will dissolve in water to make real orange juice.

Real orange juice in solid form that can be chewed or melted in the mouth.

Orange-flavored topping in pressurized cans for use on cake, pastry, or ice cream.

Homemakers reacted most favorably to the idea of instant orange juice and least favorably to orange juice tablets. Better than 3 in 5 expressed an interest in instant orange juice, about 2 in 5 were interested in orange-flavored topping, and approximately 1 in 5 thought real orange juice tablets were appealing. Interest in these products was largely motivated by a feeling that they would be easy to prepare and serve.

Orange, Grapefruit, and Lemon Profile

Homemakers were asked to select from a list of 19 descriptive statements those they associate with fresh oranges, grapefruit, and lemons.

The dominant qualities in homemakers' impressions of fresh oranges relate to taste, family appeal, and health; fresh grapefruit, to health and value as a diet food; and fresh lemons, to versatility (in keeping with their special purpose use).

Fresh Oranges

Fresh oranges were used for purposes other than juice in 9 out of 10 households during the 12 months preceding the interview. About half of the homemakers estimated that they had used fresh oranges as fruit at least once a week.

From a list of uses, a large majority of the homemakers selected the statement "peeled or cut and eaten" to describe the way fresh oranges were used in their households. The use of oranges in fruit salad or gelatin dishes was the only other way selected with any degree of frequency by the respondent.

With few exceptions, knowledge of the different varieties of oranges grown today is quite limited. When shown a list of seven varieties, most homemakers indicated they had heard of Navel and Temple oranges. Less than half said they had heard of Valencia oranges.

Names such as Jaffa, Murcott, Parson Brown, and Hamlin were unfamiliar to a majority of homemakers. Lack of identifying signs at the point of purchase would appear to be a factor. A sizable proportion of the homemakers reported that the names of the different varieties of oranges were either not displayed or displayed occasionally at the food stores where they usually shopped.

Consumer acceptance of fresh oranges is at a high level. A large majority of all family members, children and adults alike, were reported by homemakers to like fresh oranges "very much."

Grapefruit and Grapefruit Juice

Three-fourths of the homemakers interviewed reported using fresh grapefruit for purposes other than squeezing for juice in the preceding 12 months, but only about one-half said they had used grapefruit juice in the same period. Among the available forms of grapefruit juice, homemakers indicated that canned was the most widely used, with frozen concentrate being the least popular.

A dislike of fresh grapefruit and grapefruit juice by many household members, particularly children, appears to be a deterrent to their wider acceptance. Taste, often described as "too bitter" or "too sour," was cited most often as the reason for nonuse or infrequent use of grapefruit juice.

Fresh Lemons

In the 12 months preceding the interview, fresh lemons were used in about 4 out of every 5 households. Major uses cited by homemakers were for lemonade and in tea. Use of fresh lemons in the cooking or preparation of seafoods and desserts was also mentioned by sizable proportions.

As reported by homemakers, consumption of fresh lemons peaked during the summer. In an average week, about six lemons were used, compared with only three in the winter.

When buying fresh lemons, homemakers said it was important to select fruit which feels firm, has a thin skin, is medium in size, has a bright yellow color, and is free of bruises or soft spots. To homemakers these criteria in general also indicate a juicy lemon.

Lemon Products

Roughly three-fourths of the homemakers reported using one or more processed lemon products during the year preceding the interview. Nearly half said they had used frozen concentrated lemonade and bottled reconstituted lemon juice. Other processed lemon products were reported infrequently.

As with fresh lemon juice, the principal uses of processed lemon juice were for lemonade and in tea, with a sizable proportion using it in preparing desserts and seafood.

Convenience factors were cited most often when homemakers discussed the advantages of using processed lemon juice. The few who cited any disadvantages usually referred to its taste, which they felt compared unfavorably with fresh lemon juice.

HOMEMAKERS' OPINIONS ABOUT SELECTED CITRUS FRUITS AND PRODUCTS: A NATIONWIDE SURVEY

by

L. Yvonne Clayton
Standards and Research Division
Statistical Reporting Service

INTRODUCTION

This study of homemakers' opinions about selected citrus fruits and processed citrus products was undertaken to provide insights into ways of planning more adequate programs of research, education, and information for the mutual benefit of the consumer and citrus industry.

The findings presented here are based on personal interviews conducted from mid-April through June 1968 with 2,028 homemakers--the persons with primary responsibility for purchasing and preparing food for their households. These respondents were from a representative cross-section of private households located in both rural and urban areas throughout the 48 conterminous States, and were selected entirely by area probability sampling procedures. Households in which no meals were served were excluded. Most of the respondents were women, but men qualified as respondents in about 5 percent of the sample households. The terms "household" and "family" have been used interchangeably in this report for reporting convenience.

To assure a satisfactory completion rate, a differential callback procedure was employed whereby urban households--where initial contact was not made--were revisited at least three times (either during different times of the same day or on different days) and rural households were revisited at least twice. These efforts resulted in an overall completion rate of 78 percent. A complete description of the sampling procedures used in this survey is presented in the Appendix.

In interpreting the results of this study, as in all surveys where a sample is interviewed rather than the total population, the findings are subject to error. Sampling tolerances are discussed in the sample design section in the Appendix. Generally speaking, figures based on all the homemakers interviewed may be assumed to be within three percentage points, plus or minus, of the figures that would have been obtained had all homemakers in the population been interviewed.

The data are also subject to errors in response and reporting. For example, some homemakers may have erred in reporting from memory on whether they had used certain products and, if so, the frequency of use during the 12 months preceding the interview. Furthermore, there may have been some confusion in identifying the synthetic orange drink products as real orange juice. However, since this study was not intended to provide estimates of

natural juice consumption, but rather to gather data about the attitudes and impressions homemakers have toward the various juice products, the statements made were accepted as given.

When a homemaker says she uses a product a given number of times a week or a month, she is describing what she considers to be her usual practice. However, occasionally, factors such as price or availability may alter this habit. Therefore, the frequency-of-use data should not be interpreted as a precise measurement of how often a product is actually used.

The discussion in the text focuses on those results that appeared to contribute most to an understanding of homemakers' opinions about citrus fruits and products. The references in parentheses are to the numbered questions in the questionnaire and to the tabulations which summarize answers to the questionnaire. Both the questionnaire and the tabulations may be found in the Appendix following the description of the sample. (Not all questions are shown in tabular form.)

ORANGE JUICE

Homemakers were questioned about their use of fresh and processed orange juice during the 12 months prior to the interview: How frequently they served it; the kind they used most often; household members' attitudes toward orange juice; and what they regarded as the "ideal" orange juice for their families.

Incidence and Frequency of Use in Preceding Year

Some kind of orange juice was used in more than 9 out of 10 households in the United States during the 12 months prior to the interview. Only 7 percent of homemakers reported no use of orange juice during that period.

About 2 out of every 5 homemakers indicated that they used one or more kinds of orange juice every day or almost every day. Almost as many homemakers said they used orange juice at least once a week, while about 1 in 5 said they had used orange juice less than once a week. (Question 13)

Frequency of use of orange juice during the preceding 12 months^{1/}

	<u>U. S. total</u>
	<u>Percent</u>
Every day or almost every day	39
1-5 days a week	34
Less than once a week	19
Don't recall	1
Do not use	7

^{1/} In the tabulations, frequency of use data have been grouped into three broad categories. In the interview, respondents were shown a list of five categories.

In all subgroups of the population, at least 3 homemakers in 10 said they had used orange juice every day or almost every day. However, the proportion reporting use at this rate increased as the respondents' education and family income increased.

Forms of Orange Juice Used

Frozen orange juice concentrate led all other kinds in both incidence and frequency of use during the preceding year. A majority of homemakers interviewed reported using frozen concentrated orange juice during that time and almost half said it was the variety they used most often. (Questions 11, 12)

	U.S. total	
	Used in past 12 months	Used most often in past 12 months
	-----Percent-----	
Frozen concentrate	67	47
Chilled - bottle/carton	46	21
Fresh, home squeezed	46	13
Canned - nonfrozen	33	13

Of all the homemakers interviewed, persons with higher incomes, more education, larger families, under 50 years of age, and those who used orange juice regularly in their homes were most likely to have used frozen concentrated orange juice and to have served it with greater frequency than any other kind.

Household Members' Attitudes Toward Orange Juice

According to homemakers, a large majority of their household members, including themselves, like orange juice very much. Relatively few household members (8 percent), regardless of age or sex, were reported to have a total dislike of orange juice.

Respondents were asked the sex and age of each individual living and eating meals in their household and then the following question was posed (Question 27):

"Now, including yourself, which members of your household like orange juice very much? Which members don't like orange juice at all?"

	Like orange juice very much	Neutral	Don't like orange juice at all
	-----Percent-----		
Total household members	85	7	8
Homemakers	85	7	8
Other adults:			
Males	81	8	11
Females	85	8	7
Boys 17 or under	87	8	5
Girls 17 or under	87	6	7

The Ideal Orange Juice

Homemakers were asked to select from pairs of mutually exclusive characteristics those which best described the ideal orange juice for their families. Major findings on five questions are described briefly below. (See p. 5 for complete summary table.)

Pieces of pulp vs. smooth--In response to a question about whether they would prefer orange juice with or without pulp, a slight majority said that the ideal orange juice for their family should be smooth--that is, it should contain no orange pieces or pulp. (Question 14)

Sweetened vs. unsweetened--Slightly more than half of the homemakers said they preferred an unsweetened orange juice. Those who said the ideal orange juice should be sweetened were somewhat more likely to want it sweetened with sugar rather than with a low-calorie sweetener. (Question 15)

Preference for the natural taste of unsweetened orange juice was the major reason offered by those homemakers who chose this alternative. Homemakers who preferred orange juice sweetened with sugar generally felt that sugar enhances the taste; some said they dislike artificial sweeteners. Diet and health reasons were cited most often by homemakers who preferred orange juice with a low-calorie sweetener. (Question 19)

Concentrate vs. ready-to-serve and frozen vs. nonfrozen--Homemakers were fairly evenly divided in their family preferences for an orange juice that is concentrated or ready to serve, frozen or nonfrozen. (Questions 16 and 17)

Size of container--Nearly half of the homemakers said that the ideal orange juice package should contain enough of the product to prepare 1 quart of juice at a time. (Question 18)

Summary of Questions 14-18

The ideal orange juice for my family should--

	<u>U.S. total</u>
	<u>Percent</u>
Contain no orange pieces--should be smooth	57
Contain some orange pieces or pulp	39
Not be sweetened	54
Be sweetened with sugar	25 } 44
Be sweetened with a low-calorie sweetener	19 }
Be ready to serve--no need to add water	47
Be a concentrate--must add water	45
Come in a nonfrozen form	47
Come in a frozen form	44
Be packaged in a size that would provide this amount of juice at one time:	
Less than 1 pint	6
1 pint	15
1 1/2 pints	7
1 quart	46
1 1/2 quarts	6
2 quarts	16

To ascertain which combinations were more desirable to consumers, a special tabulation was devised using three of the five attributes discussed above--ready-to-serve versus concentrate, sweetened versus unsweetened, and pieces of pulp versus smooth. Since there seemed to be a high degree of correlation between expressed preferences for frozen and concentrated and for non-frozen and ready-to-serve, frozen versus nonfrozen was not included in the special tabulation. It was also felt that container size desired could be eliminated.

When the attributes considered were grouped into the eight possible combinations shown below, none met the desires of more than 15 percent of the homemakers interviewed, although certain combinations had more consumer appeal than others.

	<u>U.S. total</u>
	<u>Percent</u>
Ready to serve juice with--	
No orange pieces and sweetened	15
No orange pieces and not sweetened	14
Some orange pieces and sweetened	7
Some orange pieces and not sweetened	9
Concentrate with--	
No orange pieces and not sweetened	14
No orange pieces and sweetened	11
Some orange pieces and not sweetened	12
Some orange pieces and sweetened	7

IMITATION ORANGE DRINKS

To round out the picture of consumer preferences, usages, and buying practices for selected citrus and citrus products, the study obtained information of homemakers' use and awareness of 10 convenience products. These products included three synthetic orange drinks--a frozen concentrate (Awake) and two powders (Start and Tang).

Awareness of and Experience with Convenience Products

Early in the interview, before their use of specific citrus products was ascertained, homemakers were asked a series of questions to determine their experience with three brands of orange drink.

As an opening question, homemakers were shown a list containing names of convenience products which might be used at breakfast and asked to indicate those they had heard of. The three brands of orange drink--Awake, Start, and Tang--were separated in the list to avoid bias. (Findings for convenience products other than Awake, Start, and Tang are found in the appendix tables.)

More than 9 out of 10 homemakers reported that they had heard of at least one of the three orange drinks, with a majority indicating having tried at least one. (Questions 1, 2)

The level of consumer knowledge with respect to kind and content of the orange drink products studied varied considerably. Tang was correctly described as a powdered substitute for orange juice by a large majority of the homemakers, probably because it had been on the market longer. Homemakers were less knowledgeable about Awake and Start, however. About two-fifths did not know these drink products or they incorrectly identified both their form and content. (Questions 5, 6, and 7)

"As far as you know, does (Awake) (Start) (Tang) come in a powder form, a frozen form, or what?"

"As you understand it, is (Awake) (Start) (Tang) orange juice, a substitute for orange juice or what?"

	<u>U.S. total</u>		
	<u>Awake</u>	<u>Start</u>	<u>Tang</u>
	<u>-----Percent-----</u>		
Percentage who said they had heard of product	<u>87</u>	<u>65</u>	<u>94</u>
A frozen form	40	7	3
A powder form	23	25	77
Don't know, other	24	33	14
A substitute	49	37	68
Orange juice	16	5	10
Don't know, other	22	23	16

Purchase of Orange Drinks

One measure of a product's success with consumers is the proportion who purchase it after having tried it. Better than one-half of those who indicated they had ever tried one of the three drinks said they had purchased it in the previous 12 months. (Question 3)

	<u>U.S. total</u>		
	<u>Ever tried</u>	<u>Bought in past 12 months</u>	<u>Ratio of bought to tried</u>
	<u>-----Percent-----</u>		
Tang	66	34	52
Awake	41	24	59
Start	18	11	61

Awake, Start, and Tang were purchased by a somewhat higher proportion of homemakers with larger families (at least three members) and by those in the upper income groups. Also, more homemakers under 50 were likely to have bought these products than those over 50. There appeared to be little relationship between purchase of Awake, Start, and Tang and the reported frequency with which regular orange juice was served in the home. (Question 3)

Among all homemakers the largest proportion who reported using one of the orange drinks one or more times a week was 12 percent. Among homemakers who had purchased any of the three brands of orange drinks, a majority indicated that they had used those products less than once a week in the past 12 months. In comparison, regular orange juice was served at least once a week by the great majority of the homemakers who had used orange juice. (Question 8)

Most homemakers who had purchased one or more of the three brands of orange drink in the previous 12 months said that they planned to continue using these products about as frequently as they had in the past. Very few said they expected to use these drinks more often; an equally small number indicated that they plan to discontinue their use in the next 12 months. (Question 9)

The few homemakers who said they would use these products less often or would discontinue their use gave as their principal reasons--dislike of the taste, preference for other forms of orange juice, or general dislike of the products. (Question 10)

Reasons for Nonpurchase of Orange Drink Products

About half of all homemakers (49 percent) said they had heard of one or more of the three orange drinks but had not purchased any of them. This group was asked: "I noticed that you haven't bought either Awake, Start, or Tang in the past 12 months. Why is it that you haven't bought any of these products?" A general preference for fresh or processed orange juice was cited most frequently as a reason for not purchasing any of the three orange drink products. (Question 4)

RATINGS OF SELECTED KINDS OF ORANGE JUICE AND DRINK PRODUCTS

Homemakers were asked to rate three orange juice products (fresh home squeezed orange juice, frozen concentrated orange juice, and canned orange juice) and three synthetic orange drink products (Awake, Start, and Tang) on nine criteria in the following order, whether they had used these products in their homes or not:

- A drink for children
- Nutritional values--healthful
- Convenience; ease of preparation and serving
- Taste and flavor
- Ease of storage
- For snacks or after school drink
- For breakfast
- Cost--value for the money
- A drink for adults

Respondents were given a self-administered form which listed the products to be rated, the criteria each was to be rated on, and a scale captioned "excellent," "very good," "good," "not so good," "poor," and "no idea." To offset the possibility that the order in which the products were listed might influence responses, about half the homemakers received forms with the three juice products shown first and the remainder with the three drink products shown first.

After inspection of the data, the answers were grouped into the following three categories for analysis: "excellent," "very good or good," and "not so good" or "poor." The percentages shown in the tabulations are based on the number of homemakers who actually rated each product, excluding those who

declined to express an opinion. Results for each kind of orange juice are divided between homemakers who had used that juice in the 12 months prior to the interview and those who had not. Awake, Start, and Tang are averaged as a group, since homemakers viewed these synthetic products more or less alike. The combined results are shown for homemakers who had tried at least one of these products, those who were aware of one or more of the products but had not tried them, and the total who had heard of any of them. (Question 20)

The synthetics (Awake, Start, and Tang) and all three kinds of orange juice were given favorable ratings on all attributes by at least two-thirds of the homemakers who expressed an opinion. Fresh home squeezed orange juice, the only exception, drew negative ratings (not so good or poor) on convenience from about half of the homemakers. Fresh home squeezed orange juice led all other products rated on six criteria, however. It held a commanding lead on taste, nutritional value, and as a drink for children, and was favored (though to a lesser extent) as a drink for adults, for breakfast, and for snacks. On the remaining attributes--convenience, ease of storage, and cost--it was out-ranked by all the other products rated.

Although frozen orange juice concentrate led the list only on cost (value for the money), overall it scored better than canned orange juice and the synthetics, being outdistanced or equaled only on convenience and ease of storage. Convenience is apparently the main appeal of canned orange juice; taste, its major drawback. On all factors except ease of storage and convenience, the three synthetics (when averaged) were on a par with canned orange juice.

In general, homemakers who had used any of the juices or synthetics in the 12 months prior to the interview rated them a little more favorably than those who had not. Differences of opinion between users and nonusers were particularly striking in the case of frozen concentrated orange juice. How homemakers rated these products on the nine attributes is described in greater detail in the following discussion.

Taste and Flavor

Most homemakers rated fresh home squeezed orange juice "excellent" on taste; negative ratings were given by only 1 percent of the homemakers. Frozen concentrated orange juice did not fare as well. On the basis of taste, it was rated only "very good or good" by a majority of homemakers, although better than a third considered it "excellent." However, about half of those who had used frozen concentrate rated it "excellent" on this attribute, compared with 2 in 10 nonusers. A majority chose "very good or good" when asked to rate canned orange juice on taste, but about a third gave it a negative rating. Nonusers in particular were more likely to be negative in their attitude toward the taste of canned orange juice. The average ratings of the synthetics (Awake, Start, and Tang) on taste tend to somewhat parallel those of canned orange juice.

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>-----Percent-----</u>		
Fresh home squeezed:			
All respondents	78	21	1
Users in past 12 months	84	16	-
Nonusers	72	26	2
Frozen concentrate:			
All respondents	38	58	4
Users in past 12 months	46	53	1
Nonusers	20	69	11
Canned:			
All respondents	13	56	31
Users in past 12 months	19	64	17
Nonusers	8	53	39
Awake, Start, Tang (average):			
Have heard of	13	53	34
Tried	16	55	29
Not tried	5	52	43

Nutritional Values--Healthful

Most homemakers rated fresh home squeezed orange juice excellent on nutritional values. The frozen product also has the reputation of being nutritious, but the proportion giving it an excellent rating in that category was considerably smaller than that for fresh orange juice. Users gave it a more favorable rating on this attribute than nonusers. While homemakers generally regard canned orange juice as nutritious, it was not rated as high as either the frozen or fresh product. Most homemakers also gave the synthetics a favorable rating on nutritional value, about on a par with canned juice.

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>-----Percent-----</u>		
Fresh home squeezed:			
All respondents	80	18	2
Users in past 12 months	85	15	-
Nonusers	76	22	2
Frozen concentrate:			
All respondents	40	56	4
Users in past 12 months	46	53	1
Nonusers	25	64	11
Canned:			
All respondents	16	66	18
Users in past 12 months	22	70	8
Nonusers	11	66	23
Awake, Start, Tang (average):			
Have heard of	15	60	25
Tried	16	63	21
Not tried	10	56	34

A Drink for Children

Fresh orange juice led all other kinds by a wide margin as a drink for children.

Homemakers were much more inclined to rate frozen concentrated orange juice "very good or good" as a drink for children rather than "excellent." However, a substantial number of the homemakers who had used this product in the 12 months prior to the interview gave it an excellent rating on this attribute.

While the majority of homemakers viewed canned orange juice favorably as a drink for children, a substantial minority rated it "not so good" or "poor."

As a drink for children, the synthetics have an image similar to that of canned orange juice.

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>-----Percent-----</u>		
Fresh home squeezed:			
All respondents	74	24	2
Users in past 12 months	80	19	1
Nonusers	67	30	3
Frozen concentrate:			
All respondents	35	60	5
Users in past 12 months	43	56	1
Nonusers	19	67	14
Canned:			
All respondents	14	60	26
Users in past 12 months	19	67	14
Nonusers	11	57	32
Awake, Start, Tang (average):			
Have heard of	14	58	28
Tried	17	59	24
Not tried	7	53	40

A Drink for Adults

A majority of homemakers rated fresh orange juice "excellent" as a drink for adults. Very few negative views were expressed.

Frozen concentrated orange juice ranks second to fresh orange juice as a drink for adults. The "excellent" rating for frozen concentrated orange juice was lower than for fresh, but few homemakers characterized frozen concentrated orange juice as either "not so good" or "poor" as a drink for adults. Users were much more favorable than nonusers.

Most users and nonusers gave canned orange juice favorable ratings on this attribute. However, canned orange juice received fewer "excellent" ratings and more negative comments than either fresh or frozen concentrated orange juice.

As a drink for adults, homemakers were a little more negative in their appraisals of the synthetics than of canned orange juice.

	U.S. total		
	Excellent	Very good or good	Not so good or poor
	-----Percent-----		
Fresh home squeezed:			
All respondents	67	30	3
Users in past 12 months	76	23	1
Nonusers	60	36	4
Frozen concentrate:			
All respondents	46	51	3
Users in past 12 months	53	46	1
Nonusers	29	63	8
Canned:			
All respondents	21	56	23
Users in past 12 months	29	60	11
Nonusers	17	55	28
Awake, Start, Tang (average):			
Have heard of	19	53	28
Tried	22	54	24
Not tried	14	51	35

For Breakfast

Homemakers strongly associate fresh orange juice with breakfast; a high percentage of users and nonusers gave it an excellent rating as a drink for that meal.

Frozen concentrated orange juice ranks second to fresh orange juice as a breakfast drink. About half of the homemakers considered it excellent for this purpose, while most of the remainder rated it "very good or good." Most nonusers gave frozen concentrated orange juice favorable ratings on this attribute, but they were less inclined than users to give it the top rating.

Although a majority of homemakers had favorable opinions of canned orange juice as a breakfast drink, this product scored well below fresh and frozen concentrated orange juice.

The synthetics ranked about the same as canned orange juice on use as a breakfast drink. However, negative ratings were cited somewhat more often for the synthetics than for canned orange juice.

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>-----Percent-----</u>		
Fresh home squeezed:			
All respondents	71	24	5
Users in past 12 months	79	19	2
Nonusers	63	30	7
Frozen concentrate:			
All respondents	50	46	4
Users in past 12 months	58	41	1
Nonusers	30	58	12
Canned:			
All respondents	23	54	23
Users in past 12 months	31	57	12
Nonusers	18	53	29
Awake, Start, Tang (average):			
Have heard of	22	50	28
Tried	26	50	24
Not tried	16	48	36

For Snacks or After School Drink

As a snack or after school drink, fresh orange juice was viewed favorably by most respondents and received more excellent ratings than any other product. Differences among ratings given the various orange juices and synthetics on this attribute were smaller than on the other criteria, however.

Although homemakers were basically favorable in their ratings of frozen concentrated orange juice as a snack or after school drink, it received fewer excellent ratings than fresh orange juice.

Canned orange juice also enjoys a favorable reputation as a snack or after school drink. However, it received still fewer excellent ratings on this attribute than the frozen concentrate.

As a snack or after school drink, the synthetics have an image almost identical to that of canned orange juice.

	U.S. total		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>-----Percent-----</u>		
Fresh home squeezed:			
All respondents	49	38	13
Users in past 12 months	55	36	9
Nonusers	42	41	17
Frozen concentrate:			
All respondents	39	54	7
Users in past 12 months	44	51	5
Nonusers	25	61	14
Canned:			
All respondents	28	58	14
Users in past 12 months	35	57	8
Nonusers	23	59	18
Awake, Start, Tang (average):			
Have heard of	29	55	16
Tried	30	55	15
Not tried	25	55	20

Convenience--Ease of Preparation and Serving

Convenience is an attribute not readily identified with fresh home squeezed orange juice. About half the homemakers responded in negative terms when asked to rate it on this factor. Frozen concentrated orange juice was viewed favorably on convenience, but ratings of "very good or good" outnumbered "excellent" by 2 to 1, users were more generous in their evaluation than non-users. Most homemakers described canned orange juice as a convenient product to use, with almost half rating it "excellent" in this respect. In terms of convenience of use, homemakers considered the synthetics about on a par with frozen concentrated orange juice.

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>Percent</u>		
Fresh home squeezed:			
All respondents	13	35	52
Users in past 12 months	16	42	42
Nonusers	10	31	59
Frozen concentrate:			
All respondents	30	63	7
Users in past 12 months	36	60	4
Nonusers	16	69	15
Canned:			
All respondents	44	52	4
Users in past 12 months	50	48	2
Nonusers	41	55	4
Awake, Start, Tang (average):			
Have heard of	30	64	6
Tried	32	62	6
Not tried	28	64	8

Ease of Storage

Although a majority of homemakers viewed fresh home squeezed orange juice favorably on ease of storage, only 2 in 10 considered it excellent in this respect; about 3 in 10 gave it negative ratings. For every nonuser who rated fresh orange juice excellent on ease of storage, there were two who took the opposite view. As many users gave fresh orange juice unfavorable ratings as gave it excellent ratings.

Being easy to store is a strong plus for frozen concentrated orange juice. Virtually all users of this product gave it a favorable rating, with over half considering it excellent for this purpose; nonusers were less enthusiastic than users, but did not fault frozen concentrated orange juice on this attribute.

Canned orange juice received mainly favorable ratings on ease of storage. However, the percentage of respondents who gave it an excellent rating was somewhat lower than that for frozen concentrated orange juice.

On ease of storage, the synthetic products compared favorably with frozen concentrated orange juice.

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>-----Percent-----</u>		
Fresh home squeezed:			
All respondents	20	52	28
Users in past 12 months	24	52	24
Nonusers	16	50	34
Frozen concentrate:			
All respondents	49	47	4
Users in past 12 months	56	42	2
Nonusers	33	59	8
Canned:			
All respondents	34	55	11
Users in past 12 months	38	55	7
Nonusers	31	57	12
Awake, Start, Tang (average):			
Have heard of	50	47	3
Tried	51	47	2
Not tried	46	51	3

Cost--Value for the Money

Very few respondents gave any of the products studied an excellent rating on "cost--value for the money." Although fresh home squeezed orange juice was rated favorably on this attribute by a majority of homemakers, it also received the highest proportion of negative ratings on this factor. Frozen concentrated orange juice did better than the other products on "cost--value for the money," with a large majority of the homemakers rating it "very good or good," and few classifying it as "not so good" or "poor." The ratings given canned orange juice and the synthetics were quite similar; overall, these two fell about midway between fresh and frozen juice on "cost--value for the money."

	<u>U.S. total</u>		
	<u>Excellent</u>	<u>Very good or good</u>	<u>Not so good or poor</u>
	<u>Percent</u>		
Fresh home squeezed:			
All respondents	17	50	33
Users in past 12 months	20	51	29
Nonusers	13	51	36
Frozen concentrate:			
All respondents	24	67	9
Users in past 12 months	29	64	7
Nonusers	13	70	17
Canned:			
All respondents	13	69	18
Users in past 12 months	17	71	12
Nonusers	10	69	21
Awake, Start, Tang (average):			
Have heard of	15	64	21
Tried	16	64	20
Not tried	12	55	33

NEW PRODUCTS MADE FROM REAL ORANGES

The study explored consumer reactions to three new products made from real oranges. Interviewers described these products to homemakers in the following manner:

"Here are a few questions about new products made from real oranges--some are available in some parts of the country and others are being considered."

"Please look at the items on this list, then tell me which of these products you would be interested in."

1. Instant orange juice--powder or crystals that will dissolve in water to make real orange juice.
2. Real orange juice in a solid form that can be chewed or melted in the mouth.
3. Orange flavored topping in pressurized cans for use on cakes, pastries or ice creams.

After obtaining overall reactions of homemakers to the products just described, followup questions were asked to obtain specific reasons for interest or lack of interest in each new product.

It should be stressed that the data reported herein simply represent homemakers' reactions to new product concepts. Since no attempt was made to inform the respondents as to how these products might be packaged or priced, it would be misleading to conclude that a verbal expression of interest reflects any firm intent to purchase these products.

Interest in New Orange Products

As shown in the following tabulation, among the three new products studied, the homemakers interviewed reacted most favorably to the concept of an instant product which could be dissolved in water to make real orange juice; least interest was shown in orange juice in tablet form:

	<u>Interest level</u>
Instant orange juice	3 out of 5 (66 percent)
Orange flavored topping	2 out of 5 (43 percent)
Real orange juice in solid form	1 out of 4 (23 percent)
No interest	1 out of 5 (18 percent)

With few exceptions, the level of interest shown in each of the above products was similar for various subgroups of the population studied. Older women and those with small families were least interested in trying any of the new orange products. (Question 59)

Instant Orange Juice

Interest in instant orange juice was largely motivated by a feeling on the part of homemakers that it would be easy to prepare and serve. A few of the women who expressed an interest gave a qualified acceptance of it.
(Question 60a)

Principal reasons offered by homemakers who said they would be interested in instant orange juice

	<u>Percent</u>
Percentage who indicated an interest	<u>66</u>
Convenience	53
Easy to prepare and serve	43
Easy to store	9
Less chance for spoilage	7
Would have on hand if needed	5
Convenient (nonspecific)	3
Qualified comments -- interested but would:	
Depend on taste	10
Depend on price	2
Depend on nutritional value	1

Lack of interest in the proposed instant orange juice product stems mainly from a feeling that it would not taste as good as other forms of orange juice or from a general preference for the fresh or frozen product now available. (Question 60)

Orange Flavored Topping

As was the case with instant orange juice, homemakers were attracted to orange flavored topping primarily for reasons related to convenience: (Question 62a)

Principal reasons offered by homemakers who said they would be interested in orange flavored topping

	<u>Percent</u>
Percentage who indicated an interest	<u>43</u>
Convenience	22
Easy to use	19
Convenient (nonspecific)	3
Easy to store	2
Enjoy orange flavored foods	11
Sounds nice for desserts	11
Enjoy trying new products	7
Sounds appealing	7

The major reasons offered by homemakers who said they would not be interested in orange flavored topping were: Don't care for orange flavor or no need for it--don't do that kind of cooking. (Question 62b)

Real Orange Juice in Solid Form

As with instant orange juice and orange flavored topping, convenience was the major reason cited by homemakers expressing an interest in real orange juice in solid form. (Question 61a)

Principal reasons offered by homemakers who said they would be interested in real orange juice in solid form

	<u>Percent</u>
Percentage who indicated an interest	<u>23</u>
Easy to serve; easy to use	8
Would be nutritious	4
Would appeal to children	4
Taste like real orange juice	4
Just like eating candy	3
Like to try new products	3

A majority of the homemakers interviewed indicated that they had no interest in a solid form of orange juice because it did not appeal to them or because they preferred orange juice in a liquid form. (Question 61b)

ORANGE, GRAPEFRUIT, AND LEMON PROFILE

Homemakers were asked to indicate their impressions of three major citrus fruits--oranges, grapefruit, and lemons--by selecting from a list of descriptive statements those they associated with these fruits. Following is an explanation of the research technique used to obtain these profiles.

The basis of the image measurement technique was a list of 19 descriptive statements. From this list, the respondents chose those that fit their impression of each of the three fresh citrus fruits being evaluated. They were free to choose as many or as few as they liked. Failure to select a particular statement did not necessarily mean that the respondents believed its alternative, but rather that the statement was not prominent in their image of the fruit.

Three versions of the image item list were used with the order of statements rotated. This was done to minimize the possibility of position bias in the selection process. Respondents were handed a card (H) and told:

"Now, thinking about fresh citrus fruits, here is a list of statements which might or might not be associated with different kinds of citrus fruits. Please read through the list keeping fresh oranges in mind. Every time you come to a statement that fits your ideas or impressions of fresh oranges, just tell me the number of it. Pick as many statements as you wish." (Question 52)

This was followed by similar questions about fresh grapefruit (Question 53) and fresh lemons (Question 54). All respondents were asked to characterize each of the three fresh citrus fruits regardless of whether that fruit had been reported used in the household during the previous 12 months.

In reviewing the results of this series of questions, the reader should keep in mind some important considerations. It is difficult to assess the degree of objectivity a homemaker employed in assigning statements to each fruit. For instance, is the particular fruit characterized actually a good value for the money or did the homemaker assign an attribute to it that may have no factual basis because of her generally favorable attitude toward this fruit? It is highly likely that there is a great deal of interaction between the two. The reader is, therefore, cautioned against assuming any cause-and-effect relationship on the basis of this series of questions.

The statements shown respondents and image scores of the three fruits are shown in the tabulation below:

	<u>Oranges</u>	<u>Grapefruit</u>	<u>Lemons</u>
	----- <u>Percent</u> -----		
Good for health	85	71	47
High in Vitamin C	84	58	45
Tastes good	83	54	26
Most children like them	74	12	11
Good for snacks	67	26	7
Don't get tired of them	61	34	21
Most adults like them	57	42	26
Reasonably priced when in season	51	42	36
Can be used in many ways	50	22	58
Good for quick energy	46	26	11
Good for weight watchers	45	67	31
Good value for the money	43	33	32
Always sure of good quality when in season	41	35	32
Easy to store	40	27	47
Low in calories	36	62	38
Easy to prepare	36	37	26
Don't spoil easily	34	34	40
Good for dental health	32	22	14
Not messy to eat	12	16	8
None of them	2	9	12

Each of the three fruits had a distinctly different profile in terms of the frequency with which homemakers selected the various items. Overall, oranges drew more favorable responses than grapefruit. Grapefruit, in turn, tended to outscore lemons. Important exceptions occurred, however. Grapefruit led on "good for weight watchers" and "low in calories." It also had an edge on "not messy to eat," although all three fruits fared poorly on this factor. Lemons led on versatility, ease of storage, and lack of spoilage problems. More detailed differences by demographic characteristics may be found in the appendix tables.

Following is a summary of the profile of each fruit.

Fresh Oranges

The dominant qualities in homemakers' impressions of fresh oranges were associated with health, taste, and family appeal. A large majority of the homemakers characterized fresh oranges as a fruit that is good for health, high in Vitamin C, and tastes good. Also, a substantial majority regarded oranges as a fruit that appeals to both children and adults, is good for snacks, and one that most people are not likely to tire of.

About half the homemakers felt that oranges were reasonably priced when in season and versatile. Only one of the remaining statements about oranges-- "not messy to eat"--failed to get the endorsement of at least one-third of the homemakers; it was chosen by only a small minority. (Question 52)

Fresh Grapefruit

The strongest impressions homemakers had of grapefruit were related to health and dietary considerations. The statements a substantial majority associated with grapefruit were "good for health," "good for weight watchers," "low in calories," and "high in Vitamin C." Homemakers' reactions to statements relating to grapefruit's flavor and overall family appeal were mixed. Approximately half selected "tastes good" for grapefruit, but only about a third indicated they "don't get tired of them." Also, grapefruit appeals more to adults than to children, according to homemakers' testimony.

At least a third of the homemakers characterized grapefruit as a good value, reasonably priced and of good quality when in season, easy to prepare, and slow to spoil. Fewer homemakers associated the remaining statements with grapefruit, and again (as with oranges) "not messy to eat" was chosen by a small minority. (Question 53)

Fresh Lemons

Homemakers selected "can be used in many ways" most often to describe their impression of lemons. Since lemons are used mainly for flavoring, they understandably scored lower on those attributes more appropriate to fruits that are consumed in other ways. The statement on versatility was the only one chosen by a majority of respondents. However, almost half the homemakers associated "good for health," "high in Vitamin C," and "easy to store" with fresh lemons. "Don't spoil easily" was also selected frequently. Lemons also fared well on calorie count, value to weight watchers, and price quality and value. (Question 54)

FRESH ORANGES

Homemakers were questioned about their use of fresh oranges other than as juice during the year prior to the interview: How frequently they had used them; the ways in which they were used; and the reasons for infrequent use. Other topics discussed included the knowledge and use of different varieties of oranges and the perceived disadvantages in the use of oranges as fruit.

Knowledge and Frequency of Use of Fresh Oranges in Preceding Year

During the year prior to the survey, fresh oranges were used as fruit by about 8 out of 10 homemakers. While use of fresh oranges is relatively high among all socioeconomic groups (at least 8 in 10), it is somewhat greater among homemakers under 50, those with better education, higher incomes, and larger families.

Although most homemakers used fresh oranges during the course of a year only about 1 in 7 said they use them as fruit almost every day, and a substantial proportion reported they use oranges less than once a week. (Questions 31, 33)

"Have you used fresh oranges in the past 12 months for any purpose other than squeezing for juice or not?"

"Which statement on this card best describes how often oranges have been used in this household in the past 12 months."

	<u>U.S. total</u>
	<u>Percent</u>
Percentage who used oranges for other than juice	<u>89</u>
Every day or almost every day	15
3-5 days a week	17
About once or twice a week	21
1-3 times a month	21
Less than once a month	14
Used, but don't recall how often	1

Ways Oranges Are Used as Fruit

A large majority of homemakers selected the statement "peeled or cut and eaten" to describe one way fresh oranges were used in their households. The next most common usage reported was in fruit salad or gelatin dishes. Although homemakers indicated frequent use of oranges for fruit cup or in cooking, these two ways of preparation were used at least occasionally by about one-fourth of the homemakers interviewed. Use of oranges in cocktails or as a garnish was limited. (Question 34, 35)

"Here is a list of ways other than for juice that fresh oranges might be used. In which of these ways are oranges used most often in this household? In which other ways do you use oranges?"

	<u>Way used most often</u>	<u>Other ways used</u>	<u>Total ways used</u>
	<u>-----Percent-----</u>		
Peeled or cut and eaten	81	6	87
Fruit salad or gelatin dishes	19	31	50
Fruit cup, compote	7	16	23
Flavoring or seasoning for cooking	6	17	23
Cocktails or mixed drinks	3	10	13
Decorating, garnish	3	9	12

Awareness and Use of Different Varieties of Oranges

From a list of seven, the majority of homemakers picked the Navel orange as a variety they had heard of and had used in the previous 12 months. The next best known and most widely used varieties were Temple and Valencia, in that order. None of the other five varieties included in the list were known or were reported used by more than 10 percent of the homemakers. A few respondents volunteered a brand name or a State of origin in response to questions on knowledge and use of the different varieties. (Questions 36, 37)

	Have <u>heard of</u>	Have used in <u>past 12 months</u>
	<u>-----Percent-----</u>	
Percentage asked this question	<u>89</u>	<u>89</u>
Navel	75	64
Temple	58	43
Valencia	45	24
Jaffa	10	4
Sunkist <u>1/</u>	7	6
Murcott	5	2
Parson Brown	3	1
Florida <u>1/</u>	2	2
Hamlin	2	1
Other mentions	4	4
None	5	10

1/ Volunteered by respondents.

Homemakers who reported the use of a particular variety of orange were asked to recall the various ways they had used that variety. The ways mentioned for the three most popular varieties--Navel, Temple, and Valencia--are those reported for oranges in general. (Question 38)

"In what way do you use _____ oranges?"

	<u>Navel</u>	<u>Temple</u>	<u>Valencia</u>
	<u>-----Percent-----</u>		
Percentage who used this variety	<u>64</u>	<u>43</u>	<u>24</u>
Peeled or cut and eaten	62	40	18
Fruit salad or gelatin dishes	29	15	10
Juice <u>1/</u>	18	12	12
Fruit cup, compote	13	7	4
Flavoring or seasoning for cooking	12	6	5
Cocktails or mixed drinks	6	3	2
Decorating, garnish	6	3	2

1/ Volunteered by respondents who used a given variety of orange both for eating and juice purposes.

Awareness of In-Store Display of Different Varieties

Lack of identification at the point of purchase may be one reason homemakers are not more knowledgeable about the different varieties of oranges available today. Only 2 of every 5 homemakers (40 percent) said that the names of the different varieties of oranges were displayed in the food store where they usually shopped. Almost as many (35 percent) reported either that names were not displayed or that they were displayed only occasionally. The remainder indicated either that they did not remember seeing the names displayed or that they did not use fresh oranges for other than juice.

Respondents who lived in smaller cities or rural areas, the less educated, and those with low incomes were less likely to report seeing names displayed in stores. (Question 39)

Disadvantages of Using Fresh Oranges as Fruit

Homemakers who reported that they had not used oranges other than for juice in the 12 months prior to the survey (11 percent of all homemakers) were asked: "How does it happen that you don't use oranges?" A general dislike of oranges for other than juice or a feeling that they were too much trouble to prepare were the reasons cited most often. Few mentioned reasons relating to health or price. (Question 32)

To further ascertain factors which might be deterrents to more widespread use, homemakers who had used oranges as fruit in the past 12 months were asked to express their dislikes or the disadvantages they encountered in using them. Major criticism mentioned was that oranges are messy to eat or difficult to prepare (43 percent). Other disadvantages cited, but with considerably less frequency, were that oranges have too many seeds or pits, spoil easily, and are too expensive. About 3 in 10 said there were no disadvantages. (Question 40)

Attitudes of Household Members Toward Fresh Oranges

Homemakers reported that fresh oranges are well liked by most family members. The tabulation below indicates that boys and girls particularly like fresh oranges. (Question 29)

"Please tell me which members of your household like to eat fresh oranges very much. Which members don't like to eat oranges at all?"

	<u>Very Much</u>	<u>Neutral</u>	<u>Not at all</u>
	<u>-----Percent-----</u>		
Total household members	81	7	12
Homemakers	80	8	12
Other Adults:			
Females	80	7	13
Males	77	8	15
Boys 17 or under	86	6	8
Girls 17 or under	87	5	8

GRAPEFRUIT AND GRAPEFRUIT JUICE

This section pertains to homemakers' use and frequency of use of fresh grapefruit and grapefruit juice (both fresh and processed) during the 12 months preceding the interview. Reasons for nonuse or infrequent use of grapefruit juice and the extent to which various family members like or dislike grapefruit products are also reported.

Use and Frequency of Use of Fresh Grapefruit in Preceding Year

Fresh grapefruit was used for purposes other than squeezing for juice by 7 in 10 homemakers in the 12 months preceding the survey. While only 1 said that they used fresh grapefruit almost every day, better than 3 in 4 the homemakers reported that they had used grapefruit for nonjuice purposes at least once a week. (Questions 41, 42)

"Have you used fresh grapefruit in this household in the past 12 months for any purpose other than squeezing for juice, or not?"

"Which statement on this card best describes how often grapefruit have been used in this household in the past 12 months?"

	<u>U.S. total</u>
	<u>Percent</u>
Percentage who used grapefruit for purposes other than juice	<u>73</u>
Everyday or almost everyday	9
3-5 days a week	10
About once or twice a week	15
1-3 times a month	20
Less than once a month	18
Used, but don't recall how often	1

The reported use of fresh grapefruit was more widespread among better educated homemakers and those with higher incomes.

Incidence and Frequency of Use of Grapefruit Juice

Grapefruit juice was used in about 1 out of every 2 U.S. households. Approximately one-fourth of the homemakers indicated that they had used this product at least once a week. (Question 24)

"Which statement on this card best describes how often grapefruit juice has been used in this household in the past 12 months?"

	<u>U.S. total</u>
	<u>Percent</u>
Percentage who used grapefruit juice	<u>54</u>
Everyday or almost everyday	6
3-5 days a week	5
About once or twice a week	13
1-3 times a month	13
Less than once a month	16
Don't know--no answer	1

Forms of Grapefruit Juice Used

When homemakers were questioned about their use of grapefruit juice, 41 percent indicated they had used the canned nonfrozen variety during the preceding 12 months; 35 percent said it was the variety they served most often. Relatively few women reported frequent use of any other kind of grapefruit juice. (Questions 21, 22)

	<u>U.S. total</u>	
	<u>Used in past 12 months</u>	<u>Used most often in past 12 months</u>
	<u>-----Percent-----</u>	
Canned nonfrozen	41	35
Fresh, home squeezed	16	10
Chilled--bottle/carton	11	6
Frozen concentrate	8	4

Reasons for Nonuse or Infrequent Use of Grapefruit Juice

The taste of grapefruit juice, described as "bitter," "sour," "acid," or "tart," was cited most frequently as the reason for nonuse or infrequent use of this product. Other reasons given, but by smaller percentages of homemakers, relate to a preference for whole grapefruit or other juices, a dislike of the product in general, and dietary restrictions. (Questions 23, 25)

Household Members' Attitudes Toward Grapefruit and Grapefruit Juice

A general dislike of grapefruit and grapefruit juice by individuals in all age groups, particularly children, is a major deterrent to greater use of these products.

Based on the testimony of homemakers, one-third of the U.S. population does not like to eat fresh grapefruit and an even higher proportion totally dislikes grapefruit juice. Children reportedly are much more negative than adults toward both. Among children under 18 years of age, about 4 in 10 were characterized by homemakers as having a complete dislike of fresh grapefruit and about 7 in 10 as having a complete dislike of grapefruit juice. (Questions 28, 30) Findings for other family members are also shown in the following tabulation:

"Which members of your household like to eat fresh grapefruit very much? Which members don't like to eat grapefruit at all?"

	<u>Very Much</u>	<u>Neutral</u>	<u>Not at all</u>
	<u>-----Percent-----</u>		
Total household members	57	9	34
Homemakers	70	7	23
Other adults:			
Females	62	8	30
Males	57	9	34
Boys 17 or under	44	11	45
Girls 17 or under	50	9	41

"Which members of your household like grapefruit juice very much? Which members don't like grapefruit juice at all?"

	<u>Very Much</u>	<u>Neutral</u>	<u>Not at all</u>
	<u>-----Percent-----</u>		
Total household members	30	11	59
Homemakers	43	10	47
Other adults:			
Females	31	13	56
Males	31	12	57
Boys 17 or under	16	11	73
Girls 17 or under	20	12	68

FRESH LEMONS AND LEMON PRODUCTS

This section presents findings on homemakers' use and opinions of fresh lemons and processed lemon products, such as reconstituted lemon juice, canned lemon juice, frozen concentrated lemonade, and chilled lemonade.

The study inquired about homemakers' use of fresh lemons during the year prior to the interview and their best estimates of average weekly use in winter and in summer. Respondents were also asked about ways they use lemons and their opinion of the most important qualities to look for when buying them.

Use of Fresh Lemons and Lemon Products in the Preceding Year

On the basis of this sample, it would appear that 7 out of 10 U.S. households use fresh lemons and processed lemon products during the year. As shown in the tabulation below, incidence of use of fresh lemons nationally is only slightly greater than that of processed lemon products. Approximately equal proportions of homemakers reported using processed lemonade and lemon juice. However, variations by income are noted, with lower income homemakers far less likely to report using the processed products.

	<u>Family income</u>			
	<u>U.S. total</u>	<u>Lower</u>	<u>Middle</u>	<u>Upper</u>
	<u>-----Percent-----</u>			
Percentage who used fresh lemons	<u>78</u>	<u>73</u>	<u>77</u>	<u>81</u>
Percentage who used processed lemon products	<u>72</u>	<u>54</u>	<u>71</u>	<u>86</u>
Frozen concentrated lemonade	49	29	47	65
Chilled lemonade (cartons/bottles)	14	10	13	17
Bottled reconstituted lemon juice	46	31	43	60
Frozen reconstituted lemon juice	9	6	8	11
Canned lemon juice	7	6	8	8
Lemon juice in squeeze container	4	3	4	5

Variation by family size and income levels in the reported use of frozen concentrated lemonade and bottled reconstituted lemon juice was marked. As family income moved up and family size increased, incidence of use of these two products rose also. Use was also higher among better educated homemakers. (Questions 43, 55)

Seasonal Use of Fresh Lemons

Fresh lemons are used most frequently during the summer months. Among homemakers indicating use in the previous year, the median number of lemons used in an average week in summer was six, twice as many as in winter. (Questions 45, 46)

"About how many lemons do you use in this household in an average week during the (summer) (winter)?"

	<u>Summer</u>	<u>Winter</u>
	<u>-----Percent-----</u>	
Percentage who used lemons	<u>78</u>	<u>78</u>
None during this time of year	2	14
1 or 2	17	31
3-5	16	13
6-11	19	9
12 or more	18	4
Don't recall	6	7
Median per week	6	3

Ways Fresh Lemons Were Used

Homemakers reported that they had used fresh lemons most often for lemonade and as a flavoring for tea. Fresh lemons were also used with seafood and as an ingredient in desserts, but these were seldom reported as the most frequent uses of lemons. (Questions 49, 50)

"Here is a list of ways fresh lemons might be used. In which of these ways have you used fresh lemons in this household in the past 12 months?"

"In which ways have you used fresh lemons most often in the past 12 months?"

	<u>Total ways used</u>	<u>Ways used most often</u>
	<u>-----Percent-----</u>	
Beverages:		
Lemonade	60	32
In tea	59	31
In mixed drinks	25	5
Cooking:		
In cooking or preparing seafoods	44	11
In cooking or preparing desserts	40	11
In cooking or preparing meats	17	3
In cooking or preparing vegetables	14	2
Salads:		
In salads or salad dressings	26	4
Medicinal purposes	25	3
Garnish or decoration	19	1

Criteria for Selecting Lemons

When purchasing fresh lemons, homemakers say they are primarily interested in fruit which feels firm and is free from bruises or soft spots. Other attributes that many shoppers look for include thin skin, medium size, and bright yellow color. (Question 47)

"Here is a list of some things people might look for when shopping for lemons. Which are the most important things you look for when buying lemons?"

	<u>U.S. total</u>
	<u>Percent</u>
Percentage who used lemons	<u>78</u>
Firmness	50
No bruises or soft spots	47
Skin:	
Thin	41
Smooth	24
Thick	6
Size:	
Medium	40
Large	19
Small	2
Color:	
Bright yellow	36
Pale yellow	9
Price	33
Looks juicy	30
Brand name	9

How Homemakers Tell if a Lemon Is Juicy

Several of the physical attributes that homemakers believed to be important in selecting fresh lemons were also those which they thought indicated juiciness. Responses to the question below were tabulated for all homemakers who said they had used fresh lemons in the past 12 months and for those who selected the statement "looks juicy" as an important factor in shopping for lemons. The patterns of responses are quite similar. Opinion is fairly evenly divided among both groups as to whether firmness or softness indicates a juicy lemon. (Question 48)

"When shopping for lemons, how can you tell if a lemon looks juicy?"

	All fresh lemon users	Users who chose statement "Looks juicy" as important when <u>shopping for lemons</u>
	-----Percent-----	
Thin skin	27	33
Firmness	20	18
Softness	16	20
Smooth skin	13	15
By touch or feel	13	15
By color	12	14

Reasons for Nonuse of Fresh Lemons

No single reason can be underscored as the major factor in a housemaker's decision not to use fresh lemons. Infrequent preparation of foods calling for fresh lemons, a preference for bottled or canned lemon juice, and a general dislike of lemons were cited most frequently. Mentioned less often were the possibility of spoiling, difficulty of preparation, the sour or bitter taste of lemons, and cost. (Question 44)

Disadvantages in Using Fresh Lemons

Users of fresh lemons were asked what disadvantages, if any, they had encountered in using them. Users were evenly divided as to whether there were any disadvantages. The major criticism (21 percent) was directed toward the difficulty of preparing fresh lemons. Some actual remarks were: "Lemons are messy to prepare"; "I dislike cutting them up"; "I don't like squeezing them"; "All the pits or seeds are a problem." (Question 51)

Ways Reconstituted or Canned Lemon Juice Are Used

Reconstituted or canned lemon juice was reported used by roughly half (55 percent) of the homemakers interviewed. (Question 55)

With the aid of a list, homemakers were asked to recall the various ways they had used these products. The pattern of usage for commercially prepared lemon juice, reported in the tabulation below, tends to parallel that reported for fresh lemons. The principal uses mentioned were in lemonade, tea, desserts, and seafood. (Question 56)

"Looking at this list again, please tell me all the ways you have used lemon juice in the past 12 months."

	<u>U.S. total</u>
	<u>--Percent--</u>
Percentage who used any lemon juice	<u>55</u>
Beverages:	
Lemonade	34
In tea (hot or iced)	31
In mixed drinks	19
Cooking:	
In cooking or preparing desserts	25
In cooking or preparing seafood	25
In cooking or preparing meats	10
In cooking or preparing vegetables	8
Salads:	
In salads or salad dressings	17
Other:	
For medicinal purposes	10

Advantages and Disadvantages in Using Reconstituted or Canned Lemon Juice

Convenience was the major appeal of lemon juice products. In discussing the favorable attributes of commercially prepared lemon juice, homemakers most often said: "It's ready to use when you need it"; "It doesn't spoil easily"; "It's always available"; and "It's easy to store." (Question 57)

About half of the homemakers who had used any processed lemon juice product indicated that there was nothing they disliked about using it. The only criticism cited with any frequency was that processed lemon juice does not taste as good as juice from a fresh lemon. (Question 58)

APPENDIX

The Sample

Sample Design

The 2,028 persons interviewed in this survey are a representative sample of homemakers living in private households in the United States, excluding Alaska and Hawaii. For purposes of this study, a homemaker was defined as the person chiefly responsible for buying, preparing, and serving food for the household. Households in which no meals were prepared were excluded from the survey population.

Interviews were conducted during the period April 20 to June 29, 1968.

Sampling Method

The entire area of the United States was divided into about 1,700 primary sampling units (PSU's). In general, a PSU consisted of a county or a group of contiguous counties.

All PSU's were allocated to 86 strata. Each stratum consisted of a set of PSU's as much alike as possible with respect to such criteria as geographic region, size of central city, rate of population growth, and economic characteristics.

Because of their size, 22 large metropolitan area PSU's were made strata by themselves. These were automatically included in the sample as "self-representing" areas since they contained sample segments.

One PSU was selected randomly from each of the remaining 64 strata. Within a stratum the probability of selecting any one PSU was in proportion to its population.

A total of approximately 450 sample segments, or interviewing locations, were allocated to the 86 sample areas.

Sample segments are small land areas that include an estimated minimum of 15 dwelling units. In urban areas, sample segments are defined as blocks or groups of blocks; in rural areas, sample segments are defined by recognizable boundaries such as roads, streams, and other distinct landmarks.

Within a sample area, the probability of selecting a sample segment was proportionate to its estimated population. Several sources are used in estimating the size of each segment. These include Bureau of the Census block statistics and mapping materials as well as special field visits to subdivide Census enumeration districts into segments.

For each sample segment, the interviewer was provided with a detailed map and instructions for listing the households included. Systematic random procedures were used to designate every nth household as those in which interviews were to be taken. No deviation from the specified procedures was permitted.

Altogether, 2,614 occupied housing units were designated as part of the survey sample. Of this number, 34 households were found to have no cooking facilities or were households in which no meals were prepared. The remaining 2,580 comprised the eligible group of sample households.

Field interviewing for this study was carried out in two phases. The initial assignments to interviewers were started on April 20, 1968, and were completed within the 1-month period ending on May 20. A total of 2,580 homemakers was assigned for interview. Interviews were completed with 1,679 homemakers, or 65.1 percent of designated respondents within the first phase.

In almost all instances in urban areas, and in some rural locations, households at which interviews had not been completed in the initial assignment phase were reassigned to interviewers for additional contacts. This second phase extended from May 21 through June 29, 1968. An additional 349 interviews were completed, increasing the overall completion rate to 78.6 percent of the designated respondents. At least four attempts were made to complete interviews with homemakers who were not at home or were otherwise unavailable on the first visit to a household.

Interview completion rates among eligible respondents are summarized below:

	Number of eligible households in survey sample	Completed interviews	
		Number	Percentage of eligible
<u>Total</u>	<u>2580</u>	<u>2028</u>	<u>78.6</u>
Urbanized areas, over 1,000,000 population	856	657	76.8
All other urban households	924	723	78.2
Rural households	800	648	81.0

Sampling Tolerances

The methods employed for this survey ensure close control over each stage of sample selection. Even with a refined sampling method, however, the survey results are subject to some error arising from the fact that the findings are based on a sample rather than upon interviews with all homemakers in the population.

The extent to which sample results may differ from true figures for the population is dependent upon a number of factors. Chief among these are the size of the sample and the size of the reported survey percentages. The size

of sampling fluctuations is also affected by the way in which PSU's are defined and selected, the number of sample areas and sample segments, and other factors.

The possible magnitudes of these chance sampling fluctuations are estimated on an approximate basis in the table below:

Approximate sampling tolerances in percentage points
(95 in 100 confidence level)

For percentages around--	Number of interviews on which a percentage is based			
	2028*	800	600	400
	<hr/> -----Percent-----			
50	3	4	5	6
40-60	3	4	5	6
30-70	3	4	5	6
20-80	2	3	4	5
10-90	2	3	3	4

*Size of total sample.

The chances are approximately 95 in 100 that the survey result does not vary, plus or minus, by more than the indicated number of percentage points from the result that would have been obtained had the same procedures been used to interview all homemakers in the population. For example, 67 percent of all homemakers reported they had used frozen orange juice concentrate during the year prior to the interview. The chances are 95 in 100 that the error due to chance sampling fluctuations is not more than 3 percentage points, plus or minus, of 67 percent. For subgroups of the population, the possible variation is larger than for the total sample because the number of interviews is smaller.

Explanation of Tables

Tables are presented in the order of questioning. Generally, the wording used in the actual question, probes excluded, is given as the table heading. The numbers of the questions on which the tables are based are given as table number identification.

All tabulations are based on the total sample of 2,028 respondents. Usually there was one answer per respondent, although multiple answers were permitted on some questions. Although counted only once when answers are grouped into a summary category, a respondent may be counted in more than one subcategory within the summary category.

The background characteristics for which separate percentages are shown are defined in the following paragraphs.

Family Income Group

Respondents were asked to indicate total annual family income before taxes. Households were then classified into groups of approximately equal size, as follows:

<u>Group</u>	<u>Family income Dollars</u>	<u>Households reporting Number</u>
Lower	Under 5,000	594
Middle	5,000-7,999	587
Upper	8,000 and over	799

Income was not ascertained for 48 respondents.

Size of Place

Communities were classified as follows:

<u>Size of Place</u>	<u>Households reporting Number</u>
Metropolitan...Standard metropolitan statistical areas (SMSA's) of 1 million or more persons in 1960	657
Urban.....SMSA's of fewer than 1 million persons	723
Rural.....Areas not included in SMSA's	648

Education

The four educational levels were based on the respondents' education as they reported it. Education was not ascertained for 17 respondents. Respondents were also classified according to age and size of family. Age was not ascertained for 37 respondents.

Question 1: "Here is a list of products that are sometimes used at breakfast. Please read through this list and tell me which of these products you have heard of."

	Cases	Tang	Coffee-Mate	Instant oatmeal	Awake	Preem	Instant breakfast	Toasters	Sucaryl	Frozen pre-cooked waffles	Start	None of them	Total
	Number						Percent						
U.S. total	2028	94	91	86	87	84	82	80	76	73	65	1	819
Size of place													
Metropolitan	657	93	90	90	87	85	85	80	83	82	71	1	847
Urban	723	95	92	84	87	85	83	80	73	69	66	1	815
Rural	648	94	91	85	85	84	79	80	72	69	58	1	798
Age of homemaker													
Under 30 years	423	98	97	91	95	88	92	88	78	67	81	<u>1</u> /	875
30 - 39	373	97	95	92	94	89	87	86	74	78	71	--	863
40 - 49	399	96	91	86	88	86	85	81	78	76	67	1	835
50 - 59	357	95	92	84	82	86	79	78	77	77	59	1	810
60 and over	439	85	83	80	75	76	68	68	71	70	47	3	726
Family income													
Lower	594	86	84	79	76	73	71	70	61	61	52	3	716
Middle	587	96	93	87	89	86	84	81	77	72	68	<u>1</u> /	833
Upper	799	98	95	92	93	93	89	87	86	83	72	<u>1</u> /	888
Education of homemaker													
No high school	420	84	82	78	70	70	65	64	55	58	46	3	675
Some high school	453	94	90	83	87	82	80	78	67	70	68	<u>1</u> /	799
High school graduate	730	98	96	92	94	90	90	88	86	80	73	<u>1</u> /	887
College	408	99	95	90	91	93	90	86	90	82	68	--	884
Number in family													
1 or 2	824	91	88	81	80	81	76	73	73	70	55	2	770
3 or 4	731	95	93	90	91	88	87	85	80	76	72	--	857
5 or more	473	97	94	90	91	87	86	85	74	75	71	1	851
Frequency of serving orange juice:													
Almost daily	783	95	92	89	90	87	83	82	81	79	67	<u>1</u> /	845
1 to 5 days a week	694	96	93	88	87	88	84	81	76	73	67	1	834
Less than once a week	393	94	91	84	86	83	82	82	72	69	63	1	807
Did not serve	140	82	79	75	71	68	67	64	63	60	54	--	683

1/Less than 1 percent

Question 2: "Which of these products have you ever tried?"

	Cases	Awake	Frozen pre-cooked waffles	Instant breakfast	Toastems	Instant oatmeal	Sucaryl	Start	Coffee-Mate	Tang	Preem	None of them	Total
	Number	-	-	-	-	-	-	-	-	-	-	-	-
U.S. total	2028	41	38	37	42	39	32	18	52	66	40	8	413
Size of place													
Metropolitan	657	43	46	42	41	46	37	24	50	61	41	10	441
Urban	723	43	36	37	43	37	30	18	54	66	38	7	409
Rural	648	40	33	31	43	37	30	14	53	70	41	9	401
Age of homemaker													
Under 30 years	423	48	34	44	44	36	24	22	49	68	31	5	405
30 - 39	373	49	45	44	46	43	28	23	58	70	41	6	453
40 - 49	399	47	41	42	47	41	35	21	52	77	44	7	454
50 - 59	357	41	37	34	40	35	38	19	56	67	49	8	424
60 and over	439	26	34	22	36	42	35	9	47	50	37	16	354
Family income													
Lower	594	28	24	27	36	37	24	10	48	55	34	15	338
Middle	587	42	38	37	42	36	29	21	50	70	41	6	412
Upper	799	51	47	44	47	44	39	22	57	71	43	5	470
Education of homemaker													
No high school	420	25	24	23	33	37	22	11	45	56	35	15	326
Some high school	453	41	35	36	38	35	27	19	54	65	40	9	399
High school graduate	730	50	44	39	47	41	34	22	53	68	40	6	444
College	408	44	45	46	47	44	43	18	56	72	44	5	464
Number in family													
1 or 2	824	31	32	29	36	37	33	12	49	57	40	13	369
3 or 4	731	46	44	41	45	42	32	23	53	70	39	5	440
5 or more	473	52	40	43	48	40	30	23	55	74	39	5	449
Frequency of serving orange juice:													
Almost daily	783	47	43	37	43	43	34	20	53	67	40	6	433
1 to 5 days a week	694	42	37	39	45	41	32	19	55	70	44	7	431
Less than once a week	393	37	36	35	41	34	30	17	51	65	37	8	391
Did not serve	140	21	20	28	25	30	25	11	35	40	23	25	283

Question 3: "Which of these products have you bought in the past 12 months?"

	Cases	Awake	Frozen pre-cooked waffles	Instant breakfast	Toastems	Instant oatmeal	Sucaryl	Start	Coffee-Mate	Tang	Preem	None of them	Total
	Number	-	-	-	-	-	-	-	-	-	-	-	-
U.S. total	2028	24	25	25	28	30	17	11	34	34	19	18	265
Size of place													
Metropolitan	657	25	31	27	27	35	22	14	32	31	19	16	279
Urban	723	24	22	25	27	25	15	11	36	34	20	19	258
Rural	648	24	21	22	30	29	16	8	34	37	18	20	259
Age of homemaker													
Under 30 years	423	29	22	30	32	28	11	14	31	34	16	17	264
30 - 39	373	29	32	31	36	35	12	13	38	35	18	13	292
40 - 49	399	31	28	30	30	33	21	14	34	43	22	14	300
50 - 59	357	22	23	22	22	25	23	10	40	36	26	18	267
60 and over	439	13	20	13	21	27	19	5	30	24	15	30	217
Family income													
Lower	594	15	14	16	23	27	13	7	32	30	16	29	222
Middle	587	24	25	26	28	26	16	12	34	37	21	17	266
Upper	799	32	32	31	32	35	20	13	37	35	21	13	301
Education of homemaker													
No high school	420	15	16	16	22	27	15	7	31	34	19	28	230
Some high school	453	22	25	24	25	26	12	11	37	34	19	19	254
High school graduate	730	30	28	28	32	32	20	14	36	35	20	14	289
College	408	25	27	29	31	32	20	8	32	33	19	16	272
Number in family													
1 or 2	824	16	19	18	20	24	18	6	32	28	18	28	227
3 or 4	731	28	28	28	31	34	18	14	36	36	19	13	285
5 or more	473	33	28	30	37	32	15	14	36	42	21	12	300
Frequency of serving orange juice:													
Almost daily	783	26	28	27	28	33	19	12	35	32	20	16	276
1 to 5 days a week	694	28	25	26	31	31	17	11	37	40	22	15	283
Less than once a week	393	20	21	21	26	23	15	10	32	32	17	22	239
Did not serve	140	9	10	18	14	21	14	7	19	21	7	41	181

Question 4: "I noticed that you haven't bought either Awake, Start or Tang in the past 12 months. Why is it that you haven't bought any of these products?" (Asked only of respondents who said they had heard of one or more of these products, but had not bought any of them.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>49</u>
Prefer natural products	24
Prefer natural -- don't like synthetics	11
Prefer taste of natural products	7
Prefer frozen orange juice	7
Prefer whole fresh fruit	3
Dislike all instant products	1
Tried but family members didn't care for these products	7
General disapproval -- just didn't care for them	7
Diet or health reasons	4
Can't use for health reasons or on a special diet	2
Not as nutritious as fresh fruit	2
Too expensive	3
Don't drink any fruit juices	2
Not as convenient as other forms	1
Prefer other juices: grapefruit juice, tomato juice, etc.	1
Miscellaneous	2
Don't know	5
	<hr/>
Total	56
	<hr/> <hr/>
Number of cases	2028

Question 5: "As far as you know, does (Awake) (Start) (Tang) come in a powder form, a frozen form or what?" (Asked only of respondents who said they had heard of at least one of these products.)

	U.S. total		
	<u>Awake</u>	<u>Start</u>	<u>Tang</u>
	<u>Percent</u>		
<u>Percentage asked this question</u>	<u>87</u>	<u>65</u>	<u>94</u>
A frozen form	40	7	3
A powder form	23	25	77
Miscellaneous	3	3	3
Don't know	21	30	11
<u>Number of cases</u>	<u>2028</u>	<u>2028</u>	<u>2028</u>

Question 6: "As you understand it, is (Awake) (Start) (Tang) orange juice, a substitute for orange juice, or what?" (Asked only of respondents who said they had heard of at least one of these products.)

	U.S. total		
	<u>Awake</u>	<u>Start</u>	<u>Tang</u>
	<u>Percent</u>		
<u>Percentage asked this question</u>	<u>87</u>	<u>65</u>	<u>94</u>
A substitute	49	37	68
Orange juice	16	5	10
Miscellaneous	2	1	1
Don't know	20	22	15
<u>Number of cases</u>	<u>2028</u>	<u>2028</u>	<u>2028</u>

Question 7: "What do you think (Awake) (Start) (Tang) are made of?"
 (Asked only of respondents who said these products are a substitute for orange juice.)

	U.S. total		
	Awake	Start	Tang
	Percent		
Percentage asked this question	49	37	68
Contains artificial ingredients	14	11	18
Artificial flavoring	7	5	8
Synthetic orange juice	4	3	5
Chemical additives	2	2	3
Artificial coloring	2	2	3
Artificial sweeteners	1	1/	1
Contains natural ingredients	14	9	19
Parts of real oranges	9	6	12
Natural sugar	4	4	7
Concentrated orange juice	1	1	1
Enriched	9	7	11
Vitamins added	7	5	8
Ascorbic acid added	2	2	3
Sweetened	1	1	2
Orange flavor	7	5	10
Dehydrated product, powder	5	6	11
Miscellaneous	1	1	2
Don't know	19	15	26
	—	—	—
Total	69	54	97
Number of cases	2028	2028	2028

1/Less than 1 percent.

Question 8: Frequency of use of (Awake) (Start) (Tang) during the 12 months prior to interviewing.

	U.S. total		
	<u>Awake</u>	<u>Start</u>	<u>Tang</u>
	- - -	<u>Percent</u>	- - -
Almost daily	2	1	4
1 to 5 days a week	5	2	8
Less than once a week	16	8	20
Don't know	1	<u>1/</u>	2
Do not use	76	89	66
<hr/>			
Number of cases	2028	2028	2028

1/Less than 1 percent

Question 9: "In the next twelve months, do you think you will be using (Awake) (Start) (Tang) more often or less often in this household than you have used it in the past twelve months?" (Asked only of respondents who said they had bought product in the 12 months prior to interviewing.

	U.S. total		
	<u>Awake</u>	<u>Start</u>	<u>Tang</u>
	- - - - - Percent - - - - -		
<u>Percentage asked this question</u>	<u>24</u>	<u>11</u>	<u>34</u>
More often	3	1	5
About the same	12	5	16
Less often	5	2	6
Don't plan to use	3	2	5
No answer	1	1	2
	<hr/>		
Number of cases	2028	2028	2028

Question 11: "Please tell me whether or not you have used each of these kinds of orange juice in your household in the past 12 months."

	Cases	Fresh, home squeezed	Frozen concen- trate	Canned- non- frozen	Chilled bottle/ carton	None of these	Total
	Number	Percent					
U.S. total	2028	46	67	33	46	7	199
Size of place							
Metropolitan	657	49	69	24	52	6	200
Urban	723	43	67	35	41	7	193
Rural	648	45	65	42	46	7	205
Age of homemaker							
Under 30 years	423	42	70	35	56	4	207
30 - 39	373	44	73	36	55	3	211
40 - 49	399	49	74	37	50	3	213
50 - 59	357	45	65	31	39	10	190
60 and over	439	47	56	29	32	13	177
Family income							
Lower	594	41	50	34	35	13	173
Middle	587	47	68	36	50	5	206
Upper	799	48	79	31	52	3	213
Education of homemaker							
No high school	420	37	44	39	35	15	170
Some high school	453	40	60	33	45	8	186
High school graduate	730	49	77	32	53	3	214
College	408	53	82	32	48	4	219
Number in family							
1 or 2	824	45	61	29	36	12	183
3 or 4	731	46	70	35	52	4	207
5 or more	473	46	74	39	54	3	216
Frequency of serving orange juice:							
Almost daily	783	51	76	33	50	--	210
1 to 5 days a week	694	50	75	40	53	--	218
Less than once a week	393	43	59	33	43	--	178

Question 12: "Which of these kinds of orange juice have you used most often in the past 12 months?"

	Cases	Fresh, home squeezed	Frozen concen- trate	Canned- non- frozen	Chilled bottle/ carton	None of these	Don't know
	<u>Number</u>	<u>Percent</u>					
U.S. total	2028	13	47	13	21	7	1
Size of place							
Metropolitan	657	14	49	7	25	6	1
Urban	723	13	46	14	20	7	1
Rural	648	12	45	19	18	7	1
Age of homemaker							
Under 30 years	423	9	51	11	25	4	2
30 - 39	373	10	50	12	27	3	<u>1/</u>
40 - 49	399	9	53	15	22	3	<u>1</u>
50 - 59	357	14	46	13	17	10	1
60 and over	439	23	36	14	16	13	<u>1/</u>
Family income							
Lower	594	18	33	18	20	13	1
Middle	587	13	45	15	22	5	1
Upper	799	10	58	8	22	3	1
Education of homemaker							
No high school	420	15	29	23	18	15	<u>1/</u>
Some high school	453	13	40	15	24	8	<u>1</u>
High school graduate	730	11	54	10	24	3	1
College	408	14	61	7	16	4	1
Number in family							
1 or 2	824	18	41	12	18	12	1
3 or 4	731	9	50	15	24	4	1
5 or more	473	12	52	12	23	3	<u>1/</u>
Frequency of serving orange juice:							
Almost daily	783	14	54	12	22	--	1
1 to 5 days a week	694	13	50	13	24	--	1
Less than once a week	393	16	43	19	23	--	1

/Less than 1 percent

Question 13: Frequency of use of orange juice during the 12 months prior to interviewing.

	Cases	Almost daily	1 to 5 days a week	Less than once a week	Don't know, no answer	Do not use
	<u>Number</u>			<u>Percent</u>		
U.S. total	2028	39	34	19	1	7
Size of place						
Metropolitan	657	45	33	15	1	6
Urban	723	37	33	22	1	7
Rural	648	34	36	21	1	8
Age of homemaker						
Under 30 years	423	33	38	25	<u>1/</u>	4
30 - 39	373	38	38	20	<u>1</u>	3
40 - 49	399	42	38	17	<u>1/</u>	3
50 - 59	357	41	31	16	<u>1</u>	11
60 and over	439	39	28	19	1	13
Family income						
Lower	594	31	31	23	2	13
Middle	587	38	36	21	<u>1/</u>	5
Upper	799	44	36	16	<u>1</u>	3
Education of homemaker						
No high school	420	32	29	21	2	16
Some high school	453	35	36	20	1	8
High school graduate	730	43	36	17	1	3
College	408	41	35	20	<u>1/</u>	4
Number in family						
1 or 2	824	35	29	23	1	12
3 or 4	731	42	36	17	1	4
5 or more	473	39	41	16	1	3

1/Less than 1 percent.

Question 14: "The ideal orange juice for my family should contain:"

	Cases	Some orange pieces or pulp	No orange pieces -- should be smooth	Other
	Number	- - - - -	Percent	- - - - -
U.S. total	2028	39	57	4
Size of place				
Metropolitan	657	40	55	5
Urban	723	36	59	5
Rural	648	40	58	2
Age of homemaker				
Under 30 years	423	50	48	2
30 - 39	373	43	55	2
40 - 49	399	34	63	3
50 - 59	357	36	59	5
60 and over	439	30	62	8
Family income				
Lower	594	29	64	7
Middle	587	42	55	3
Upper	799	43	54	3
Education of homemaker				
No high school	420	25	69	6
Some high school	453	37	58	5
High school graduate	730	44	54	2
College	408	45	51	4
Number in family				
1 or 2	824	36	58	6
3 or 4	731	40	57	3
5 or more	473	40	58	2
Frequency of serving orange juice:				
Almost daily	783	42	57	1
1 to 5 days a week	694	37	60	3
Less than once a week	393	40	57	3
Did not serve	140	23	53	24

Question 15: "The ideal orange juice for my family should be:"

	Cases	Sweetened with sugar	Sweetened with a low calorie sweetener	Not sweetened	Other
	Number	Percent			
U.S. total	2028	25	19	54	2
Size of place					
Metropolitan	657	19	15	63	3
Urban	723	28	20	50	2
Rural	648	28	20	49	3
Age of homemaker					
Under 30 years	423	36	18	45	1
30 - 39	373	32	19	48	1
40 - 49	399	19	21	59	1
50 - 59	357	18	18	59	5
60 and over	439	21	16	59	4
Family income					
Lower	594	28	21	47	4
Middle	587	26	18	54	2
Upper	799	23	16	60	1
Education of homemaker					
No high school	420	29	20	47	4
Some high school	453	26	19	51	4
High school graduate	730	24	19	56	1
College	408	22	15	62	1
Number in family					
1 or 2	824	19	19	58	4
3 or 4	731	28	17	54	1
5 or more	473	31	20	48	1
Frequency of serving orange juice:					
Almost daily	783	23	17	60	-
1 to 5 days a week	694	25	19	55	1
Less than once a week	393	32	21	47	-
Did not serve	140	17	17	44	22

Question 16: "The ideal orange juice for my family should be in this form:"

	Cases	Concen- trate -- must add water	Ready to serve -- no need to add water	Fresh squeezed	Other ^{1/}
	<u>Number</u>	<u>Percent</u>			
U.S. total	2028	45	47	4	4
Size of place					
Metropolitan	657	46	46	5	3
Urban	723	47	46	3	4
Rural	648	42	50	3	5
Age of homemaker					
Under 30 years	423	46	50	2	2
30 - 39	373	46	49	2	3
40 - 49	399	49	44	3	4
50 - 59	357	44	47	3	6
60 and over	439	41	47	6	6
Family income					
Lower	594	34	56	5	5
Middle	587	45	48	3	4
Upper	799	53	40	3	4
Education of homemaker					
No high school	420	31	59	4	6
Some high school	453	44	48	2	6
High school graduate	730	48	46	3	3
College	408	56	35	4	5
Number in family					
1 or 2	824	42	47	5	6
3 or 4	731	46	48	3	3
5 or more	473	50	46	2	2
Frequency of serving orange juice:					
Almost daily	783	50	43	5	2
1 to 5 days a week	694	47	47	2	4
Less than once a week	393	40	54	3	3
Did not serve	140	23	49	2	26

^{1/} Includes such answers as "makes no difference."

Question 17: "The ideal orange juice for my family should come in:"

	Cases	A frozen form	A non- frozen form	Fresh form	Other ^{1/}
	Number	Percent			
U.S. total	2028	44	47	3	6
Size of place					
Metropolitan	657	45	46	5	4
Urban	723	46	46	3	5
Rural	648	42	49	2	7
Age of homemaker					
Under 30 years	423	44	51	1	4
30 - 39	373	46	47	3	4
40 - 49	399	48	43	3	6
50 - 59	357	45	45	4	6
60 and over	439	40	48	4	8
Family income					
Lower	594	34	55	3	8
Middle	587	44	49	3	4
Upper	799	52	39	3	6
Education of homemaker					
No high school	420	32	58	3	7
Some high school	453	43	47	3	7
High school graduate	730	48	45	3	4
College	408	52	38	4	6
Number in family					
1 or 2	824	41	47	4	8
3 or 4	731	45	47	3	5
5 or more	473	48	45	2	5
Frequency of serving orange juice:					
Almost daily	783	50	44	4	2
1 to 5 days a week	694	48	44	2	6
Less than once a week	393	38	55	3	4
Did not serve	140	14	56	2	28

^{1/}Includes such answers as powdered form, dry form, makes no difference.

Question 18: "The ideal orange juice package for my family should contain enough of the product so that I could prepare this amount of juice at one time:"

	Cases	Less than a pint	1 pint	1 1/2 pints	1 quart	1 1/2 quarts	2 quarts	Other
	Number	Percent						
U.S. total	2028	6	15	7	46	6	16	4
Size of place								
Metropolitan	657	7	13	7	49	4	16	4
Urban	723	7	15	7	46	6	15	4
Rural	648	4	16	6	44	8	18	4
Age of homemaker								
Under 30 years	423	2	11	5	50	9	22	1
30 - 39	373	3	9	3	50	6	27	2
40 - 49	399	3	13	7	47	6	20	4
50 - 59	357	7	17	9	48	5	8	6
60 and over	439	14	22	8	39	5	6	6
Family income								
Lower	594	9	19	7	41	6	11	7
Middle	587	7	14	6	44	6	20	3
Upper	799	4	12	7	51	6	17	3
Education of homemaker								
No high school	420	9	19	6	41	7	11	7
Some high school	453	5	13	6	47	5	19	5
High school graduate	730	5	11	6	51	6	19	2
College	408	5	18	9	43	7	15	3
Number in family								
1 or 2	824	12	22	7	41	5	7	6
3 or 4	731	3	12	7	52	7	16	3
5 or more	473	1	6	6	46	8	32	1
Frequency of serving orange juice:								
Almost daily	783	4	13	6	49	6	20	2
1 to 5 days a week	694	6	14	7	49	6	15	3
Less than once a week	393	8	16	7	46	7	13	3
Did not serve	140	16	21	4	28	2	7	22

Question 19: "I noticed that you said the ideal orange juice for your family should be sweetened with sugar. Why do you say that?"

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>25</u>
Prefer sweetened juice, tastes better	18
Don't like artificial sweeteners	5
Sugar gives energy	3
Children prefer a sweet juice	3
Not dieting, can have sugar	2
More convenient, don't have to add sugar	1
Miscellaneous	1
Don't know	1
	<hr/>
Total	34
	<hr/> <hr/>
Number of cases	2028

Question 19: "I noticed that you said the ideal orange juice for your family should not be sweetened. Why do you say that?"

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>54</u>
Prefer the natural taste	35
Health reasons; on special diet	9
Just prefer it unsweetened	8
Dieting -- need less calories	8
Prefer to do my own sweetening	3
Unsweetened is better for dental health	2
Don't like artificial sweeteners	2
Too much sugar is not good for children	2
Miscellaneous	1
Don't know	1
	—
Total	71
	<u><u> </u></u>
Number of cases	2028

Question 19: "I noticed that you said the ideal orange juice for your family should be sweetened with a low calorie sweetener. Why do you say that?"

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>19</u>
Dieting; need less calories	11
Health reasons, on special diet	5
Don't care for sweet juice	2
Better for dental health than sugar	1
Too much sugar is not good for children	1
Prefer taste to that of sugar	1
Miscellaneous	1
Don't know	1
	<u>—</u>
Total	23
	<u><u> </u></u>
Number of cases	2028

Question 20: "Now I'd like your opinions about some orange juice. Read each of the statements on the left, then rate each product either excellent, very good, good, not so good, or poor."

	Ratings of the orange juice						Cases
	Excellent	Very good	Good	Not so good	Poor	No idea	
	Percent						Number
Ease of storage							
Fresh home squeezed	19	18	30	22	5	6	2028
Frozen concentrate	46	26	18	3	1	6	2028
Canned	31	23	27	8	2	9	2028
Convenience--ease of preparation/serving							
Fresh home squeezed	12	12	22	36	13	5	2028
Frozen concentrate	28	32	27	6	1	6	2028
Canned	39	27	19	3	1	11	2028
For snacks or after school drink							
Fresh home squeezed	45	18	17	8	4	8	2028
Frozen concentrate	35	28	21	5	1	10	2028
Canned	24	22	28	8	4	14	2028
For breakfast							
Fresh home squeezed	67	14	9	3	2	5	2028
Frozen concentrate	46	28	15	3	1	7	2028
Canned	20	20	28	12	8	12	2028
A drink for adults							
Fresh home squeezed	64	17	11	2	1	5	2028
Frozen concentrate	42	30	17	2	1	8	2028
Canned	18	20	29	12	8	13	2028
A drink for children							
Fresh home squeezed	70	15	8	1	1	5	2028
Frozen concentrate	33	33	22	4	1	7	2028
Canned	12	19	34	15	8	12	2028
Taste and flavor							
Fresh home squeezed	74	14	6	1	1/	5	2028
Frozen concentrate	35	36	17	3	1	8	2028
Canned	11	17	32	18	10	12	2028
Cost--value for the money							
Fresh home squeezed	15	15	29	21	8	12	2028
Frozen concentrate	21	26	31	7	1	14	2028
Canned	10	19	35	10	4	22	2028
Nutritional values--healthful							
Fresh home squeezed	76	13	5	1	1	4	2028
Frozen concentrate	36	33	18	3	1	9	2028
Canned	13	21	34	10	5	17	2028

^{1/} Less than 1 percent

Question 20: "Now I'd like your opinions about some drink products. Read each of the statements on the left, then rate each product either excellent, very good, good, not so good, or poor." (Tabulations based on all respondents who said they had heard of (Awake) (Start) (Tang)).

	Ratings of the products						Cases
	Excellent	Very good	Good	Not so good	Poor	No idea	
	-----	-----	Percent	-----	-----	-----	
Ease of storage							
Awake	31	16	16	1	1	35	1756
Start	28	13	15	1	1/	43	1315
Tang	41	18	17	1	1	22	1907
Convenience -- ease of preparation/serving							
Awake	17	21	20	3	1	38	1756
Start	15	17	17	2	1	48	1315
Tang	26	23	21	4	1	25	1907
For snacks or after school drink							
Awake	17	16	18	5	4	40	1756
Start	14	13	15	5	4	49	1315
Tang	22	18	21	6	5	28	1907
For breakfast							
Awake	15	14	17	8	6	40	1756
Start	10	10	16	8	6	50	1315
Tang	15	13	21	13	10	28	1907
A drink for adults							
Awake	12	13	19	7	6	43	1756
Start	9	10	15	8	6	52	1315
Tang	12	13	22	12	10	31	1907
A drink for children							
Awake	9	13	21	10	5	42	1756
Start	6	10	17	9	5	53	1315
Tang	10	14	27	13	8	28	1907
Taste and flavor							
Awake	9	12	19	10	6	44	1756
Start	5	9	15	9	7	55	1315
Tang	8	14	24	14	11	29	1907
Cost -- value for the money							
Awake	7	13	19	6	3	52	1756
Start	5	8	15	7	3	62	1315
Tang	11	13	22	8	5	41	1907
Nutritional values -- healthful							
Awake	9	14	20	6	4	47	1756
Start	5	9	16	7	5	58	1315
Tang	9	12	24	10	7	38	1907

1/ Less than 1 percent

Question 21: "Please tell me whether or not you have used each of these kinds of grapefruit juice in your household in the past 12 months."

	Cases	Fresh, home squeezed	Frozen concen- trate	Canned- non- frozen	Chilled bottle/ carton	None of these	Total
	Number	Percent					
U.S. total	2028	16	8	41	11	46	122
Size of place							
Metropolitan	657	18	12	38	15	43	126
Urban	723	16	7	42	10	46	121
Rural	648	14	7	41	9	48	119
Age of homemaker							
Under 30 years	423	10	9	42	13	46	120
30 - 39	373	14	9	42	12	44	121
40 - 49	399	17	9	45	13	42	126
50 - 59	357	20	8	41	10	44	123
60 and over	439	18	6	34	7	51	116
Family income							
Lower	594	18	5	36	8	50	117
Middle	587	16	9	41	12	45	123
Upper	799	14	10	43	13	44	124
Education of homemaker							
No high school	420	19	5	39	9	46	118
Some high school	453	19	7	41	12	43	122
High school graduate	730	13	9	39	12	49	122
College	408	14	11	45	11	42	123
Number in family							
1 or 2	824	18	8	38	10	49	123
3 or 4	731	15	7	42	12	43	119
5 or more	473	13	10	42	12	45	122
Frequency of serving grapefruit juice:							
Almost daily	131	46	14	66	23	-	149
1 to 5 days a week	368	40	19	76	21	-	156
Less than once a week	601	19	13	76	19	-	127

Question 22: "Which of these kinds of grapefruit juice have you used most often in the past 12 months?"

	Cases	Fresh, home squeezed	Frozen concen- trate	Canned- non- frozen	Chilled bottle/ carton	None of these
	Number	Percent				
U.S. total	2028	10	4	35	6	46
Size of place						
Metropolitan	657	12	6	32	7	43
Urban	723	11	3	35	6	46
Rural	648	8	2	38	4	48
Age of homemaker						
Under 30 years	423	7	4	36	8	46
30 - 39	373	8	5	37	7	44
40 - 49	399	10	5	39	6	42
50 - 59	357	13	4	35	5	44
60 and over	439	14	3	28	4	51
Family income						
Lower	594	13	2	31	4	50
Middle	587	10	4	35	6	45
Upper	799	9	5	37	7	44
Education of homemaker						
No high school	420	14	2	33	6	46
Some high school	453	13	3	35	6	43
High school graduate	730	8	5	34	6	49
College	408	9	4	40	5	42
Number in family						
1 or 2	824	12	3	32	4	49
3 or 4	731	10	5	36	7	43
5 or more	473	8	4	38	5	45
Frequency of serving grapefruit juice:						
Almost daily	131	12	3	20	2	-
1 to 5 days a week	368	16	5	20	4	-
Less than once a week	601	4	4	10	3	-

Question 23: "How does it happen that you don't use grapefruit juice in this household?" (Asked only of respondents who said they had not used grapefruit juice in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>46</u>
Dislike taste: too sour or bitter	22
Prefer whole fresh grapefruit	12
Just don't care for grapefruit juice	6
Prefer other fruit juices	5
Health or diet reasons	4
Children dislike it	3
Too expensive	1
Habit: not used to it	1
Very seldom buy grapefruit juice	1
Miscellaneous	2
	<hr/>
Total	57
	<hr/> <hr/>
Number of cases	2028

Question 24: Frequency of use of grapefruit juice during the 12 months prior to interviewing.

	Cases	Almost daily	1 to 5 days a week	Less than once a week	Don't know, no answer	Do not use
	<u>Number</u>	- - - - -	- - - - -	<u>Percent</u>	- - - - -	- - - - -
U.S. total	2028	6	18	29	1	46
Size of place						
Metropolitan	657	8	20	28	1	43
Urban	723	5	19	29	1	46
Rural	648	6	16	29	1	48
Age of homemaker						
Under 30 years	423	4	14	35	1	46
30 - 39	373	4	17	34	1	44
40 - 49	399	6	20	32	-	42
50 - 59	357	9	22	24	1	44
60 and over	439	9	18	21	1	51
Family income						
Lower	594	7	20	22	1	50
Middle	587	7	19	28	1	45
Upper	799	6	16	34	<u>1/</u>	44
Education of homemaker						
No high school	420	8	21	24	1	46
Some high school	453	7	20	29	1	43
High school graduate	730	5	16	29	1	49
College	408	6	17	34	1	42
Number in family						
1 or 2	824	7	19	24	1	49
3 or 4	731	5	18	33	1	43
5 or more	473	6	18	31	<u>1/</u>	45

1/Less than 1 percent.

Question 25: "How does it happen that you don't use grapefruit juice more often?" (Asked only of respondents who said they had used grapefruit juice less than once a week in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>29</u>
Dislike taste; too sour or bitter	11
Prefer other fruit juices	8
Children dislike it	5
Prefer whole fresh grapefruit	4
Health or diet reasons	3
Other family members dislike it	2
Just don't care for grapefruit juice	2
Only use for colds or other ills	1
Very seldom buy grapefruit juice	1
Too expensive	1
Miscellaneous	1
	<hr/>
Total	39
	<hr/>
Number of cases	2028

Question 27: "Now, including yourself, which members of your household like orange juice very much? Which members don't like orange juice at all?"

	Cases	Very Much	Neutral	Not at All
	<u>Number</u>	- - - - -	<u>Percent</u>	- - - - -
Total family members <u>1/</u>	6854	85	7	8
Homemakers	2028	85	7	8
Age 39 or under	796	88	6	6
Age 40 or over	1195	83	7	10
Adult males	1875	81	8	11
Age 39 or under	894	85	8	7
Age 40 or over	981	78	8	14
Adult females	365	85	8	7
Age 39 or under	207	88	7	5
Age 40 or over	158	81	8	11
Boys	1301	87	8	5
Age 12 or under	963	87	8	5
Age 13 to 17	338	89	8	3
Girls	1245	87	6	7
Age 12 or under	907	85	7	8
Age 13 to 17	338	90	5	5
Total males	3314	84	8	8
Total females	3540	86	7	7

1/ Age was not ascertained for 37 homemakers and 40 other family members.

Question 28: "How about grapefruit juice, which members of your household like grapefruit juice very much? Which members don't like grapefruit juice at all?"

	Cases	Very Much	Neutral	Not at All
	Number	Percent	Percent	Percent
Total family members ^{1/}	6854	30	11	59
Homemakers	2028	43	10	47
Age 39 or under	796	41	10	49
Age 40 or over	1195	44	10	46
Adult males	1875	31	12	57
Age 39 or under	894	29	11	60
Age 40 or over	981	33	12	55
Adult females	365	31	13	56
Age 39 or under	207	28	10	62
Age 40 or over	158	35	17	48
Boys	1301	16	11	73
Age 12 or under	963	14	11	75
Age 13 to 17	338	19	12	69
Girls	1245	20	12	68
Age 12 or under	907	19	10	71
Age 13 to 17	338	24	15	61
Total males	3314	26	11	63
Total females	3540	33	11	56

^{1/} Age was not ascertained for 37 homemakers and 40 other family members.

Question 29: "Please tell me which members of your household like to eat fresh oranges very much. Which members don't like to eat oranges at all?"

	Cases	Very Much	Neutral	Not at All
	<u>Number</u>	- - - - -	<u>Percent</u>	- - - - -
Total family members ^{1/}	6854	81	7	12
Homemakers	2028	80	8	12
Age 39 or under	796	84	6	10
Age 40 or over	1195	78	9	13
Adult males	1875	77	8	15
Age 39 or under	894	78	7	15
Age 40 or over	981	75	9	16
Adult females	365	80	7	13
Age 39 or under	207	80	7	13
Age 40 or over	158	79	6	15
Boys	1301	86	6	8
Age 12 or under	963	85	7	8
Age 13 to 17	338	90	4	6
Girls	1245	87	5	8
Age 12 or under	907	86	5	9
Age 13 to 17	338	88	4	8
Total males	3314	80	7	13
Total females	3540	83	6	11

^{1/}Age was not ascertained for 37 homemakers and 40 other family members.

Question 30: "How about grapefruit, which members of your household like to eat fresh grapefruit very much? Which members don't like to eat grapefruit at all?"

	Cases	Very Much	Neutral	Not at All
	Number	Percent	Percent	Percent
Total family members <u>1</u> /	6854	57	9	34
Homemakers	2028	70	7	23
Age 39 or under	796	69	7	24
Age 40 or over	1195	71	6	23
Adult males	1875	57	9	34
Age 39 or under	894	52	10	38
Age 40 or over	981	62	7	31
Adult females	365	62	8	30
Age 39 or under	207	59	8	33
Age 40 or over	158	66	8	26
Boys	1301	44	11	45
Age 12 or under	963	42	11	47
Age 13 to 17	338	47	13	40
Girls	1245	50	9	41
Age 12 or under	907	47	9	44
Age 13 to 17	338	57	9	34
Total males	3314	52	10	38
Total females	3540	62	8	30

Age was not ascertained for 37 homemakers and 40 other family members

Question 31: "Have you used fresh oranges in the past 12 months for any purpose other than squeezing for juice or not?"

	Cases	Yes, used	No, not used
	<u>Number</u> - - -	<u>Percent</u> - - -	
U.S. total	2028	89	11
Size of place			
Metropolitan	657	90	10
Urban	723	87	13
Rural	648	89	11
Age of homemaker			
Under 30 years	423	91	9
30 - 39	373	94	6
40 - 49	399	93	7
50 - 59	357	87	13
60 and over	439	82	18
Family income			
Lower	594	82	18
Middle	587	91	9
Upper	799	93	7
Education of homemaker			
No high school	420	83	17
Some high school	453	89	11
High school graduate	730	92	8
College	408	91	9
Number in family			
1 or 2	824	82	18
3 or 4	731	92	8
5 or more	473	96	4

Question 32: "How does it happen that you don't use oranges?"
 (Asked only of respondents who said they had used oranges for
 other than juice in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>11</u>
Just don't like oranges (except for juice)	4
Don't like to prepare	3
Health reasons; on a special diet	2
Too expensive	1
Don't use in baking, recipe doesn't call for them	1
Miscellaneous	1
Don't know	1
	<u>—</u>
Total	13
	<u><u> </u></u>
Number of cases	2028

Question 33: Frequency of use of oranges other than for juice during the 12 months prior to interviewing.

	Cases	Almost daily	1 to 5 days a week	Less than once a week	Don't know, no answer	Do not use
	Number			Percent		
U.S. total	2028	15	38	35	1	11
Size of place						
Metropolitan	657	22	37	30	1	10
Urban	723	12	38	36	1	13
Rural	648	12	38	38	1	11
Age of homemaker						
Under 30 years	423	13	41	37	$\frac{1}{1}$	9
30 - 39	373	17	43	33	$\frac{1}{1}$	6
40 - 49	399	17	41	35	$\frac{1}{2}$	7
50 - 59	357	14	37	34	$\frac{2}{1}$	13
60 and over	439	15	31	35	1	18
Family income						
Lower	594	12	35	34	1	18
Middle	587	17	38	35	1	9
Upper	799	17	41	34	1	7
Education of homemaker						
No high school	420	17	34	31	1	17
Some high school	453	15	42	32	$\frac{1}{1}$	11
High school graduate	730	14	39	38	$\frac{1}{1}$	8
College	408	16	38	36	1	9
Number in family						
1 or 2	824	14	30	37	1	18
3 or 4	731	16	42	34	$\frac{1}{1}$	8
5 or more	473	16	46	33	$\frac{1}{1}$	4
Frequency of serving orange juice:						
Almost daily	783	22	39	30	1	8
1 to 5 days a week	694	12	49	31	$\frac{1}{1}$	8
Less than once a week	393	9	27	50	$\frac{1}{1}$	13
Did not serve	140	10	18	36	1	35

$\frac{1}{1}$ Less than 1 percent.

Question 34: "Here is a list of ways other than for juice that fresh oranges might be used. In which of these ways are oranges used most often in this household?"

	Cases	Peeled or cut and eaten	Fruit salad/gelatin dishes	Fruit cup, compote	Cocktails or mixed drinks	Flavoring or seasoning for cooking	Decoration, garnish	Do not use	Total
	<u>Number</u>					<u>Percent</u>			
U.S. total	2028	81	19	7	3	6	3	11	130
Size of place									
Metropolitan	657	85	15	9	4	9	4	10	136
Urban	723	77	20	8	3	6	2	13	129
Rural	648	80	21	5	2	5	2	11	126
Age of homemaker									
Under 30 years	423	87	12	5	2	5	2	9	122
30 - 39	373	90	14	6	2	7	3	6	128
40 - 49	399	85	24	10	5	8	3	7	142
50 - 59	357	75	21	10	5	7	3	13	134
60 and over	439	69	22	5	1	6	2	18	123
Family income									
Lower	594	74	16	4	2	5	2	18	121
Middle	587	84	19	6	3	5	2	9	128
Upper	799	83	20	10	4	8	3	7	135
Education of homemaker									
No high school	420	77	13	2	2	3	1	17	115
Some high school	453	82	19	5	3	6	3	11	129
High school graduate	730	83	19	9	4	6	3	8	132
College	408	80	24	12	3	11	3	9	142
Number in family									
1 or 2	824	69	22	8	3	6	2	18	128
3 or 4	731	85	19	8	4	7	3	8	134
5 or more	473	93	12	5	2	6	2	4	124

Question 35: "In which other ways do you use oranges?"

	Cases	Peeled or cut and eaten	Fruit salad/gelatin dishes	Fruit cup, compote	Cocktails or mixed drinks	Flavoring or seasoning for cooking	Decoration, garnish	Other	None, no answer	Do not use	Total
	<u>Number</u>										
U.S. total	2028	6	31	16	10	17	9	1	39	11	140
Size of place											
Metropolitan	657	4	30	20	16	18	10	2	40	10	150
Urban	723	7	32	14	7	16	8	1	37	13	135
Rural	648	6	30	15	7	18	9	1	39	11	136
Age of homemaker											
Under 30 years	423	2	32	14	13	17	9	1	42	9	139
30 - 39	373	3	33	17	12	17	9	2	43	6	142
40 - 49	399	7	30	16	10	17	9	1	41	7	138
50 - 59	357	8	32	18	9	19	11	1	32	13	143
60 and over	439	8	27	16	5	15	9	2	36	18	136
Family income											
Lower	594	6	26	11	4	13	7	1	42	18	128
Middle	587	5	31	16	8	17	7	2	41	9	136
Upper	799	7	35	21	15	21	12	1	34	7	153
Education of homemaker											
No high school	420	4	23	9	5	11	5	1	45	17	120
Some high school	453	5	28	15	8	14	7	2	43	11	133
High school graduate	730	5	34	18	11	19	9	1	36	8	141
College	408	8	35	21	14	24	16	2	31	9	160
Number in family											
1 or 2	824	8	28	14	7	15	9	1	34	18	134
3 or 4	731	5	31	18	12	19	9	2	39	8	143
5 or more	473	2	34	16	11	18	10	1	45	4	141

Question 36: "Which of these varieties of oranges have you heard of -- do you know of any others?" (Asked only of respondents who said they had used fresh oranges for purposes other than squeezing for juice.)

	Cases	Percent asked	Navel	Temple	Valencia	Jaffa	Sunkist ^{1/}	Murcott	Parson Brown	Hamlin	Florida ^{1/}	Other	None	Total
	Number	Percent												
U.S. total	2028	89	75	58	45	10	7	5	3	2	2	4	5	216
Size of place														
Metropolitan	657	90	81	66	57	18	5	6	2	2	2	4	3	246
Urban	723	87	72	54	41	7	7	4	3	3	2	4	6	203
Rural	648	89	72	55	36	5	7	5	3	3	2	4	8	200
Age of homemaker														
Under 30 years	423	91	76	57	37	7	10	3	2	1	1	2	4	200
30 - 39	373	94	78	62	45	11	6	4	3	3	3	4	7	226
40 - 49	399	93	82	63	51	10	5	6	2	3	3	6	5	236
50 - 59	357	87	76	58	49	10	6	5	3	2	1	4	3	217
60 and over	439	82	66	50	43	10	7	6	3	3	2	5	8	203
Family income														
Lower	594	82	58	41	27	5	10	4	2	2	2	5	11	167
Middle	587	91	76	57	46	8	6	4	3	3	2	3	5	213
Upper	799	93	87	71	56	14	4	7	3	3	2	4	2	253
Education of homemaker														
No high school	420	83	54	42	25	4	10	3	2	2	2	5	15	164
Some high school	453	89	70	56	34	6	10	4	2	2	3	5	6	198
High school graduate	730	92	84	65	51	11	4	5	2	2	2	4	2	232
College,	408	91	87	64	65	17	4	8	4	4	1	4	1	259
Number in family														
1 or 2	824	82	69	52	42	9	6	5	3	3	2	4	6	201
3 or 4	731	92	78	62	46	12	6	5	2	2	1	5	5	224
5 or more	473	96	81	62	46	8	8	4	3	2	3	3	7	227

^{1/}Volunteered by respondents, not included in list.

Question 37: "Which of these varieties of oranges have been used in this household in the past twelve months?" (Asked only of respondents who said they had used fresh oranges for purposes other than squeezing for juice.)

	Cases	Percent asked	Navel	Temple	Valencia	Sunkist ^{1/}	Jaffa	Florida ^{1/}	Murcott	Hamlin	Parson Brown	Other	None	Total
	Number	Percent												
U.S. total	2028	89	64	43	24	6	4	2	2	1	1	4	10	161
Size of place														
Metropolitan	657	90	72	50	33	4	9	2	3	<u>2/</u>	<u>2/</u>	4	7	184
Urban	723	87	60	39	22	6	2	2	2	<u>1/</u>	<u>1/</u>	3	12	150
Rural	648	89	61	41	17	6	2	2	3	1	1	4	11	149
Age of homemaker														
Under 30 years	423	91	65	40	16	9	4	1	2	<u>2/</u>	1	2	10	150
30 - 39	373	94	68	46	25	6	3	3	2	<u>1/</u>	1	4	10	169
40 - 49	399	93	71	48	28	4	5	3	3	1	1	4	9	177
50 - 59	357	87	63	46	29	4	5	1	3	1	1	4	9	166
60 and over	439	82	56	38	24	6	6	2	3	1	1	4	12	153
Family income														
Lower	594	82	46	32	15	9	2	2	2	1	1	5	17	132
Middle	587	91	65	41	25	6	4	2	1	1	1	3	10	159
Upper	799	93	78	54	30	4	6	1	4	1	1	4	5	188
Education of homemaker														
No high school	420	83	45	34	15	9	2	2	2	1	<u>2/</u>	5	18	133
Some high school	453	89	58	43	19	9	3	2	2	<u>2/</u>	<u>1/</u>	4	11	152
High school graduate	730	92	73	47	25	3	5	2	3	<u>1/</u>	1	3	7	170
College	408	91	75	47	38	3	7	1	3	1	2	3	4	184
Number in family														
1 or 2	824	82	58	38	24	5	4	2	3	1	1	3	11	150
3 or 4	731	92	68	48	23	5	6	1	2	<u>2/</u>	1	5	9	168
5 or more	473	96	71	46	26	7	3	3	2	<u>2/</u>	1	3	10	172
Frequency of serving orange juice:														
Almost daily	783	92	71	52	27	5	7	2	4	1	1	4	6	180
1 to 5 days a week	694	92	66	44	25	6	4	1	2	<u>2/</u>	1	4	11	164
Less than once a week	393	87	61	33	21	5	1	2	1	1	1	4	13	143

^{1/}Volunteered by respondents, not included in list.

^{2/}Less than 1 percent.

Question 38: "In what ways do you use (Navel) (Temple) (Valencia) oranges?" (Asked only of respondents who said they had used this variety in the 12 months prior to interviewing.) 1/

	U.S. total		
	<u>Navel</u>	<u>Temple</u>	<u>Valencia</u>
	- - - -	<u>Percent</u>	- - - -
<u>Percentage asked this question</u>	<u>64</u>	<u>43</u>	<u>24</u>
Peel or cut and eat	62	40	18
Fruit salad/gelatin dishes	29	15	10
Juice/squeeze <u>2/</u>	18	12	12
Fruit cup, compote	13	7	4
Flavoring or seasoning for cooking	12	6	5
Cocktails or mixed drinks	6	3	2
Decorating, garnish	6	3	2
Total	146	86	53
	<u> </u>	<u> </u>	<u> </u>
Number of cases	2028	2028	2028

1/Data not shown for other varieties -- Hamlin, Murcott, Jaffa, and Parson Brown -- because of too few users.

2/Volunteered by respondents who said they had used this variety of orange for purposes other than juice.

Question 39: "In the stores where you usually shop, are the names of the different varieties of oranges displayed?"

	Cases	Yes	Sometimes	No	Don't know	Do not use
	Number	Percent			Percent	
U.S. total	2028	40	14	21	14	11
Size of place						
Metropolitan	657	50	15	14	11	10
Urban	723	37	12	23	15	13
Rural	648	34	15	26	14	11
Age of homemaker						
Under 30 years	423	41	14	24	12	9
30 - 39	373	42	18	24	10	6
40 - 49	399	43	17	18	15	7
50 - 59	357	44	12	19	12	13
60 and over	439	33	11	19	19	18
Family income						
Lower	594	27	12	25	18	18
Middle	587	42	14	20	15	9
Upper	799	49	16	18	10	7
Education of homemaker						
No high school	420	30	10	25	18	17
Some high school	453	38	15	22	14	11
High school graduate	730	44	15	21	12	8
College	408	48	15	16	12	9
Number in family						
1 or 2	824	34	12	20	16	18
3 or 4	731	47	13	20	12	8
5 or more	473	40	20	24	12	4

Question 40: "As you know, there are both advantages and disadvantages in using any food item. What would you say are the disadvantages of using fresh oranges as fruit -- that is, what do you dislike about them?" (Asked only of respondents who said they had used oranges for purposes other than juice in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>89</u>
Messy or difficult to eat or prepare	43
Too many seeds or pits	9
Spoil easily	7
Too expensive	6
Not juicy enough	3
Sometimes it's difficult to get good quality oranges	3
Difficult to store	2
Dislike taste	2
Health or diet reasons	2
Miscellaneous	2
Don't know	1
No disadvantages	29
Total	109
Number of cases	2028

Question 41: "Have you used fresh grapefruit in this household in the past 12 months for any purpose other than squeezing for juice, or not?"

	Cases	Yes, used	No, not used
	Number - - - -	Percent - - - -	
U.S. total	2028	73	27
Size of place			
Metropolitan	657	78	22
Urban	723	70	30
Rural	648	70	30
Age of homemaker			
Under 30 years	423	69	31
30 - 39	373	74	26
40 - 49	399	77	23
50 - 59	357	75	25
60 and over	439	69	31
Family income			
Lower	594	62	38
Middle	587	73	27
Upper	799	80	20
Education of homemaker			
No high school	420	62	38
Some high school	453	69	31
High school graduate	730	75	25
College	408	84	16
Number in family			
1 or 2	824	71	29
3 or 4	731	73	27
5 or more	473	75	25

Question 42: Frequency of use of grapefruit during the 12 months prior to interviewing.

	Cases	Almost daily	1 to 5 days a week	Less than once a week	Don't know	Do not use
	Number	- - - - -	- - - - -	Percent	- - - - -	- - - - -
U.S. total	2028	9	25	38	1	27
Size of place						
Metropolitan	657	13	32	33	<u>1</u> /	22
Urban	723	7	23	39	<u>1</u>	30
Rural	648	8	20	41	1	30
Age of homemaker						
Under 30 years	423	3	19	47	<u>1</u> /	31
30 - 39	373	4	23	46	<u>1</u>	26
40 - 49	399	12	25	40	<u>1</u> /	23
50 - 59	357	14	31	29	<u>1</u>	25
60 and over	439	13	26	29	1	31
Family income						
Lower	594	9	22	30	1	38
Middle	587	8	25	40	<u>1</u> /	27
Upper	799	10	27	42	<u>1</u>	20
Education of homemaker						
No high school	420	13	21	27	1	38
Some high school	453	9	26	33	1	31
High school graduate	730	7	24	43	1	25
College	408	9	30	45	<u>1</u> /	16
Number in family						
1 or 2	824	11	26	33	1	29
3 or 4	731	9	24	40	<u>1</u> /	27
5 or more	473	7	23	44	1	25

1/Less than 1 percent.

Question 43: "----, have you used fresh lemons in this household
in the past 12 months, or not?"

	Cases	Yes, Used	No, Not Used
	Number - - - - -	Percent - - - - -	
U.S. total	2028	78	22
Size of place			
Metropolitan	657	81	19
Urban	723	75	25
Rural	648	78	22
Age of homemaker			
Under 30 years	423	76	24
30 - 39	373	80	20
40 - 49	399	82	18
50 - 59	357	80	20
60 and over	439	71	29
Family income			
Lower	594	73	27
Middle	587	77	23
Upper	799	81	19
Education of homemaker			
No high school	420	73	27
Some high school	453	78	22
High school graduate	730	78	22
College	408	81	19
Number in family			
1 or 2	824	72	28
3 or 4	731	80	20
5 or more	473	84	16

Question 44: "How does it happen that you don't use lemons?"
 (Asked only of respondents who said they had not used fresh lemons in the past 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>22</u>
Seldom prepare foods that call for lemons	6
Inconvenience	4
It is not convenient	2
Difficult to prepare	2
Prefer bottled or canned lemon juice	4
Just don't like lemons	3
Spoil easily	2
Dislike taste; too sour or bitter	2
Too expensive	2
Health reasons, on a special diet, etc.	1
Miscellaneous	1
Don't know	2
	—
Total	27
	=====
Number of cases	2028

Question 45: "About how many lemons do you use in this household in an average week during the winter?"

	Cases	None	2 or less	3-5	6-11	12 or over	Don't know	Do not use
	<u>Number</u>	-	-	-	-	<u>Percent</u>	-	-
U.S. total	2028	14	31	13	9	4	7	22
Size of place								
Metropolitan	657	11	37	15	8	3	7	19
Urban	723	12	30	12	10	4	7	25
Rural	648	19	26	13	8	5	7	22
Age of homemaker								
Under 30 years	423	18	30	12	7	5	4	24
30 - 39	373	18	28	13	10	5	6	20
40 - 49	399	13	34	14	10	6	5	18
50 - 59	357	11	33	16	8	3	9	20
60 and over	439	10	30	11	8	2	10	29
Family income								
Lower	594	12	26	12	9	4	10	27
Middle	587	17	27	13	8	5	7	23
Upper	799	13	38	14	8	3	5	19
Education of homemaker								
No high school	420	14	21	13	10	6	9	27
Some high school	453	15	25	15	11	5	7	22
High school graduate	730	16	33	11	8	3	7	22
College	408	9	45	13	7	3	4	19
Number in family								
1 or 2	824	11	32	12	6	3	8	28
3 or 4	731	14	33	14	9	4	6	20
5 or more	473	18	26	13	14	7	6	16

Question 46: "About how many lemons do you use in this household in an average week during the summer?"

	Cases	None	2 or less	3-5	6-11	12 or over	Don't know	Do not use
	Number	-	-	-	-	Percent	-	-
U.S. total	2028	2	17	16	19	18	6	22
Size of place								
Metropolitan	657	1	19	19	22	14	6	19
Urban	723	2	18	14	16	19	6	25
Rural	648	2	16	14	20	19	7	22
Age of homemaker								
Under 30 years	423	2	18	15	16	21	4	24
30 - 39	373	1	19	17	21	16	6	20
40 - 49	399	1	17	15	20	23	6	18
50 - 59	357	2	19	14	22	18	5	20
60 and over	439	2	15	17	17	10	10	29
Family income								
Lower	594	2	13	16	19	15	8	27
Middle	587	2	16	15	17	20	7	23
Upper	799	1	22	16	21	17	4	19
Education of homemaker								
No high school	420	1	11	13	18	20	10	27
Some high school	453	1	12	16	19	25	5	22
High school graduate	730	2	20	15	19	16	6	22
College	408	2	26	19	19	11	4	19
Number in family								
1 or 2	824	2	19	16	16	12	7	28
3 or 4	731	2	19	16	20	19	4	20
5 or more	473	1	12	15	24	26	6	16

Question 47: "Here is a list of some things people might look for when shopping for lemons. Which are the most important things you look for when buying lemons?" (Asked only of respondents who said they had used fresh lemons in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>78</u>
Firmness -- not too soft	50
No bruises or soft spots	47
Thin skin	41
Medium size	40
Bright yellow color	36
Price	33
Looks juicy	30
Smooth skin	24
Large size	19
Brand name	9
Pale yellow color	9
Thick skin	6
Small size	2
Miscellaneous	3
Total	349
	<u><u>2028</u></u>
Number of cases	

Question 48: "When shopping for lemons, how can you tell if a lemon looks juicy?" (Asked only of respondents who said they had used fresh lemons in the past 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>78</u>
Skin	31
Thin skin	21
Smooth skin	10
Shiny skin	2
Thick skin	1
Firmness	15
Size	12
Large or medium size	7
Weight -- heavy	4
Full and round	2
Softness	12
Touch or feel	10
Color	9
Can't tell by looking	6
Has fresh look	5
Brand; look for certain brands	1
Miscellaneous	1
Don't know	7
	<hr/>
Total	109
	<hr/> <hr/>
Number of cases	2028

Questions 49 and 50: "Here is a list of ways fresh lemons might be used. In which of these ways have you (used fresh lemons) (used fresh lemons most often) in this household in the past twelve months?" (Asked only of respondents who said they had used fresh lemons during the 12 months prior to interviewing.)

	U.S. total	
	<u>Ways used</u>	<u>Ways used most often</u>
	- - -	<u>Percent</u> - - -
<u>Percentage asked this question</u>	<u>78</u>	<u>78</u>
Lemonade	60	32
In tea (hot or iced)	59	31
In cooking or preparing seafood	44	11
In cooking or preparing desserts	40	11
In salads or salad dressings	26	4
For medicinal purposes	25	3
In mixed drinks (alcoholic or other)	25	5
As a garnish or decoration	19	1
In cooking or preparing meats	17	3
In cooking or preparing vegetables	14	2
Miscellaneous	3	1
No answer	-	1
Total	<u>332</u>	<u>105</u>
Number of cases	2028	2028

Question 51: "Some people say there are disadvantages as well as advantages in using fresh lemons. Tell me the things you don't like about using fresh lemons?" (Asked only of respondents who said they had used fresh lemons in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>78</u>
Difficult to prepare	21
Spoil easily	4
Too much waste	3
Too expensive	3
Not as convenient as other forms	1
Not juicy enough	1
Difficult to store	1
Too tart	1
Don't know	7
Miscellaneous	4
No disadvantages	39
	<u>—</u>
Total	85
	<u><u> </u></u>
Number of cases	2028

Question 52: "Please read through the list keeping fresh oranges in mind. Every time you come to a statement that fits your ideas or impressions of fresh oranges, just tell me the number of it."

	Cases	Good value for the money	Most adults like them	Low in calories	Good for snacks	Easy to store	Don't spoil easily	Good for health	Not messy to eat	High in vitamin C	Tastes good	Don't get tired of them	Easy to prepare	Good for dental health	Can be used in many ways	Good for weight watchers	Always sure of good quality when in season	Good for quick energy	Most children like them	Reasonably priced when in season	None, no answer	Total
	Number	Percent																				
U.S. total	2028	43	57	36	67	40	34	85	12	84	83	61	36	32	50	45	41	46	74	51	2	979
Size of place																						
Metropolitan	657	41	59	33	67	43	39	87	13	87	83	61	40	35	49	43	43	49	73	53	1	999
Urban	723	44	55	37	67	38	33	82	12	84	84	60	35	30	52	45	41	46	72	50	2	969
Rural	648	42	58	38	69	38	31	85	9	82	83	62	32	30	50	47	39	42	77	51	2	967
Age of homemaker																						
Under 30 years	423	47	55	39	75	44	35	87	6	87	88	59	36	32	47	52	39	42	77	58	-	1,005
30 - 39	373	42	55	35	76	42	35	88	11	90	85	59	34	38	46	45	41	46	85	55	1	1,009
40 - 49	399	43	60	44	73	33	34	88	12	89	88	63	38	34	51	50	41	53	80	52	2	1,028
50 - 59	357	42	59	33	62	38	34	83	12	85	82	62	32	31	58	45	44	48	67	51	1	969
60 and over	439	38	61	30	53	41	35	78	16	74	76	62	39	25	50	34	41	42	65	41	5	906
Family income																						
Lower	594	39	57	29	59	39	31	80	14	74	75	57	37	26	45	36	36	41	72	40	4	891
Middle	587	47	58	36	68	40	32	86	13	86	86	62	39	33	52	43	40	47	76	53	1	998
Upper	799	42	58	42	73	40	39	87	8	91	88	64	32	34	52	52	45	48	75	58	1	1,029
Education of homemaker																						
No high school	420	41	60	28	59	42	35	78	17	70	73	60	37	26	44	35	37	42	71	42	4	901
Some high school	453	42	55	32	68	40	33	82	12	82	81	59	38	31	51	40	41	47	77	48	2	961
High school graduate	730	43	57	41	71	40	35	88	11	90	86	59	34	34	51	50	42	47	74	57	1	1,011
College	408	42	59	39	69	37	33	89	7	92	92	66	36	33	56	50	42	47	75	55	1/1	1,019
Number in family																						
1 or 2	824	41	56	34	58	40	33	80	14	79	79	59	37	25	52	40	39	44	64	46	3	923
3 or 4	731	43	58	37	70	41	37	87	9	87	86	59	34	33	49	46	42	46	76	54	1	995
5 or more	473	45	60	39	79	39	33	90	10	89	87	66	36	40	50	50	43	48	89	56	1	1,050

1/Less than 1 percent

Question 53: "Please read through the list keeping fresh grapefruit in mind. Every time you come to a statement that fits your ideas or impressions of fresh grapefruit, just tell me the number of it."

	Cases	Good value for the money	Most adults like them	Low in calories	Good for snacks	Easy to store	Don't spoil easily	Good for health	Not messy to eat	High in vitamin C	Tastes good	Don't get tired of them	Easy to prepare	Good for dental health	Can be used in many ways	Good for weight watchers	Always sure of good quality when in season	Good for quick energy	Most children like them	Reasonably priced when in season	None, no answer	Total
	Number	Percent																				
U.S. total	2028	33 42 62 26 27 34 71 16 58 54 34 37 22 22 67 35 26 12 42 9	729																			
Size of place																						
Metropolitan	657	33 46 64 28 29 39 77 18 64 56 38 40 26 25 68 40 31 13 46 5	786																			
Urban	723	34 42 64 24 26 32 67 15 55 52 32 33 20 23 69 33 23 11 39 10	704																			
Rural	648	32 38 58 26 28 31 69 15 55 52 32 38 20 19 65 33 24 13 40 12	700																			
Age of homemaker																						
Under 30 years	423	30 36 69 23 27 30 70 9 56 50 23 34 19 19 72 28 19 10 42 7	673																			
30 - 39	373	34 46 63 27 28 34 75 16 56 53 29 36 25 20 68 35 27 20 45 8	745																			
40 - 49	399	35 47 69 28 24 33 74 16 60 56 35 35 22 21 73 37 30 15 46 9	765																			
50 - 59	357	37 46 65 28 28 35 71 19 59 58 43 42 22 26 70 42 30 9 44 8	782																			
60 and over	439	32 38 48 25 31 36 67 21 57 52 40 40 21 26 55 37 26 9 35 13	709																			
Family income																						
Lower	594	28 37 48 21 27 30 63 16 49 45 31 35 18 20 55 31 23 12 31 14	634																			
Middle	587	33 41 65 27 26 31 72 16 57 54 32 37 22 24 69 35 23 11 42 7	724																			
Upper	799	37 47 70 30 28 39 76 16 65 60 38 38 24 23 75 38 30 13 50 7	804																			
Education of homemaker																						
No high school	420	31 37 47 25 27 28 61 17 48 44 35 37 20 21 51 32 25 16 32 15	649																			
Some high school	453	31 42 58 28 28 32 68 15 47 46 29 35 19 22 64 35 28 10 40 11	688																			
High school graduate	730	33 43 69 28 28 36 75 17 63 55 32 38 23 22 74 37 26 12 44 7	762																			
College	408	38 46 71 24 27 37 80 15 71 70 42 38 25 25 76 35 26 11 51 3	811																			
Number in family																						
1 or 2	824	34 39 56 25 29 34 68 19 58 56 38 40 18 23 63 36 26 9 40 10	721																			
3 or 4	731	31 41 66 24 26 34 71 14 56 51 31 33 22 23 69 33 25 11 41 10	712																			
5 or more	473	34 48 67 32 27 34 76 15 60 55 33 37 27 20 72 36 29 19 47 7	775																			

Question 54: "Please read through the list keeping fresh lemons in mind. Every time you come to a statement that fits your ideas or impressions of fresh lemons, just tell me the number of it.

	Cases	Good value for the money	Most adults like them	Low in calories	Good for snacks	Easy to store	Don't spoil easily	Good for health	Not messy to eat	High in vitamin C	Tastes good	Don't get tired of them	Easy to prepare	Good for dental health	Can be used in many ways	Good for weight watchers	Always sure of good quality when in season	Good for quick energy	Most children like them	Reasonably priced when in season	None, no answer	Total
	Number	Percent																				
U.S. total	2028	32	26	38	7	47	40	47	8	45	26	21	26	14	58	31	32	11	11	36	12	568
Size of place																						
Metropolitan	657	31	24	41	7	53	45	48	9	49	23	22	30	16	60	33	34	11	8	39	9	592
Urban	723	34	25	38	6	45	37	46	7	44	26	21	24	13	58	31	31	10	10	34	14	554
Rural	648	31	28	36	8	45	38	48	8	42	28	21	27	13	57	30	30	13	15	34	13	565
Age of homemaker																						
Under 30 years	423	34	21	34	7	51	39	40	6	43	23	18	27	12	58	28	29	7	7	41	10	535
30 - 39	373	32	28	36	6	48	43	43	8	43	27	21	25	11	57	28	30	13	15	38	14	566
40 - 49	399	31	27	42	7	48	39	52	9	50	28	21	27	15	62	34	32	11	13	38	9	595
50 - 59	357	34	29	43	9	46	43	52	9	48	30	24	26	16	66	35	38	14	11	35	10	618
60 and over	439	29	26	38	5	44	38	49	7	44	23	24	28	15	51	32	33	13	10	28	17	554
Family income																						
Lower	594	31	28	33	7	44	36	46	10	40	23	22	27	13	52	31	31	13	14	29	15	545
Middle	587	34	27	41	7	47	39	48	7	47	28	22	27	14	58	30	31	10	11	35	10	573
Upper	799	31	23	40	6	50	43	47	6	48	26	21	25	14	63	32	34	11	9	41	13	583
Education of homemaker																						
No high school	420	31	32	33	6	46	35	47	12	39	27	23	29	12	52	29	30	15	15	29	14	556
Some high school	453	34	26	37	8	45	39	44	7	39	26	22	29	13	56	31	34	12	13	34	14	563
High school graduate	730	30	23	40	6	48	43	47	7	47	23	19	24	14	59	32	31	9	9	39	13	563
College	408	34	24	43	6	51	40	50	7	55	30	24	25	16	67	33	33	9	8	38	8	601
Number in family																						
1 or 2	824	31	25	38	7	45	38	49	8	44	24	22	26	14	55	33	31	12	9	30	15	556
3 or 4	731	32	24	37	5	50	41	42	7	43	25	20	26	13	62	29	31	10	9	39	11	556
5 or more	473	34	30	42	8	48	42	50	9	49	30	22	28	14	59	32	36	12	17	40	9	611

Question 55: "Which of these products, if any, have you used in the past 12 months?"

	<u>U.S. total</u>
	<u>Percent</u>
Frozen concentrated lemonade	49
Bottled reconstituted lemon juice	46
Chilled lemonade -- cartons/bottles	14
Frozen reconstituted lemon juice	9
Canned lemon juice	7
Plastic squeeze lemon <u>1/</u>	4
None	28
Total	157
	<hr/>
Number of cases	2028

1/Volunteered by respondents, not included in list.

Question 56: "Looking at this list again, please tell me all the ways you have used lemon juice in the past 12 months."
(Asked only of respondents who said they had used lemon juice products in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>55</u>
Lemonade	34
In tea (hot or iced)	31
In cooking or preparing desserts	25
In cooking or preparing seafood	25
In mixed drinks (alcoholic or other)	19
In salads or salad dressings	17
For medicinal purposes	10
In cooking or preparing meats	10
In cooking or preparing vegetables	8
Miscellaneous	5
Total	184
	<hr/>
Number of cases	2028

Question 57: "What would you say are the advantages of using these kinds of lemon juice products -- that is, what do you like about them?" (Asked only of respondents who said they had used lemon juice products in the past 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>55</u>
Ready to use	34
Don't spoil easily	15
Always available	12
Easy to store	11
Less expensive than fresh lemons	6
No waste	5
Tastes like real lemon	4
Convenient, handy	4
Good for flavoring food	3
Like the flavor	3
Miscellaneous	2
Don't know, no answer	1
	<hr/>
Total	100
	<hr/>
Number of cases	2028

Question 58: "What would you say are the disadvantages of using these kinds of lemon juice products -- what do you dislike about them?" (Asked only of respondents who said they had used lemon juice products in the 12 months prior to interviewing.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>55</u>
Prefer the taste of fresh lemon juice	18
Just prefer fresh lemon juice	3
Fewer vitamins than fresh lemons	2
Too expensive	1
Miscellaneous	4
No disadvantages	28
	<u>—</u>
Total	56
	<u><u> </u></u>
Number of cases	2028

Question 59: "Please look at the items on this list, then tell me which of these products you would be interested in."

	Cases	Instant orange juice -- powder or crystals that will dissolve in water to make real orange juice	Real orange juice in a solid form that can be chewed or melted in the mouth	Orange flavored topping in pressurized cans for use on cakes, pastries or ice creams	None of these	Total
	Number		Percent			
U.S. total	2028	66	23	43	18	150
Size of place						
Metropolitan	657	60	23	37	21	141
Urban	723	67	22	43	18	150
Rural	648	72	25	50	14	161
Age of homemaker						
Under 30 years	423	70	28	47	9	154
30 - 39	373	73	20	42	13	148
40 - 49	399	72	26	45	13	132
50 - 59	357	66	25	44	20	155
60 and over	439	55	17	39	30	141
Family income						
Lower	594	62	21	42	23	148
Middle	587	70	27	44	14	155
Upper	799	68	23	44	15	150
Education of homemaker						
No high school	420	59	26	45	22	152
Some high school	453	67	21	48	16	152
High school graduate	730	70	22	40	15	147
College	408	68	25	42	17	152
Number in family						
1 or 2	824	61	21	40	24	146
3 or 4	731	67	24	45	15	151
5 or more	473	75	26	47	10	158

Question 60: "Why do you say you would not be interested in instant orange juice?" (Asked only of respondents who said they would not be interested in this product.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>34</u>
Would not taste as good as other forms of orange juice	9
Prefer fresh or frozen orange juice	8
Don't like instant, powdered	5
Health reasons	3
Doesn't appeal to me	2
Satisfied with what is available	2
Don't use oranges or orange juice	2
Don't like to try new things	1
Would not be convenient to use	1
Would be too expensive	1
Miscellaneous	2
No answer	4
	<u>—</u>
Total	40
	<u><u> </u></u>
Number of cases	2028

Question 60a: "Why do you say you would be interested in instant orange juice?" (Asked only of respondents who said they would be interested in this product.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>66</u>
Convenience	53
Easy to use	43
Easy to store	9
Would not spoil	7
Would have on hand if needed	5
Convenient (nonspecific)	3
Qualified comments -- interested but would:	13
Depend on taste	10
Depend on price	2
Depend on nutritional value	1
Would taste like real oranges	8
No waste	4
Would be nutritious	3
Like to try new products	2
Less expensive than other orange juice products	2
Sounds appealing	2
Could be used in many ways	1
Miscellaneous	2
Don't know	2
	—
Total	92
	=====
Number of cases	2028

Question 61a: "Why do you say you would be interested in real orange juice in a solid form?" (Asked only of respondents who said they would be interested in this product.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>23</u>
Easy to use	8
Would be nutritious	4
Children would like it	4
Would taste like real oranges	4
Would be like candy	3
Like to try new products	3
Sounds appealing	2
Would be good for snacks	1
Qualified comments, depends on taste, price, etc.	1
Miscellaneous	2
Don't know, no answer	1
	<u>—</u>
Total	33
	<u><u> </u></u>
Number of cases	2028

Question 61b: "Why do you say you would not be interested in real orange juice in a solid form?" (Asked only of respondents who said they would not be interested in this product.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>77</u>
Prefer to drink orange juice	19
Doesn't sound appealing	15
Satisfied with what is available	7
Just wouldn't like it (general)	6
Don't think would like the taste	6
Would be like candy, gum, popsicles	4
Would be an imitation	3
Would be product for children only	2
Would be difficult to eat	2
Health reasons	2
Never use orange juice	2
Would be expensive	1
Would be messy	1
Children wouldn't like it	1
Miscellaneous	2
Don't know, no answer	11
	<u>—</u>
Total	84
	<u>—</u>
Number of cases	2028

Question 62a: "Why do you say you would be interested in orange flavored topping?" (Asked only of respondents who said they would be interested in this product.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>43</u>
Convenience	22
Easy to use	19
Convenient (nonspecific)	3
Easy to store	2
Enjoy orange flavored foods	11
Good on desserts	11
Like to try new products	7
Sounds appealing	7
Would be decorative	2
Would be nutritious	1
Miscellaneous	1
Don't know, no answer	1
Total	<u>63</u>
	<u>-----</u>
Number of cases	2028

Question 62b: "Why do you say you would not be interested in orange flavored topping?" (Asked only of respondents who said they would not be interested in this product.)

	<u>U.S. total</u>
	<u>Percent</u>
<u>Percentage asked this question</u>	<u>57</u>
Taste reasons	22
Don't care for orange flavor	15
Would be too sweet	5
Would taste artificial	3
No need for this kind of product	13
Don't care for toppings	6
Prefer using fresh oranges	5
Doesn't sound appealing	4
Would be expensive in a can	2
Don't like pressurized cans	2
Just wouldn't like it (general)	1
Miscellaneous	1
Don't know, no answer	6
	<hr/>
Total	62
	<hr/> <hr/>
Number of cases	2028

QUESTIONNAIRE

With the exception of check-box material, office record information, and free-answer space, the questionnaire used for this study is reproduced below in entirety. The cards used are reproduced at the end of the questionnaire. Instructions to interviewers and respondents are in upper case letters.

Hello, I'm helping on a survey for the U. S. Department of Agriculture, and I would like to ask you some questions about various foods you may have purchased for use in this household.

1. SHOW RESPONDENT CARD A. Here is a list of products that are sometimes used at breakfast. Please read through this list and tell me which of these products you have heard of. Just give me the numbers. Any others on this list?

2. Which of these products have you ever tried? Any others on this list?

3. Which of these products have you bought in the past 12 months? Any others on this list?

IF RESPONDENT HAS NOT HEARD OF ANY OF THESE THREE PRODUCTS--AWAKE, START, OR TANG--ON QUESTION 1, GO TO QUESTION 11. IF RESPONDENT HAS NOT BOUGHT ANY OF THESE--AWAKE, START, OR TANG--ON QUESTION 3, BUT HAS HEARD OF ONE OR MORE OF THESE PRODUCTS, ASK QUESTION 4, THEN GO TO QUESTION 5.

4. I noticed that you haven't bought either Awake, Start, or Tang in the past 12 months. Why is it that you haven't bought any of these products?

5. As far as you know, does (Awake) (Start) (Tang) come in a powder form, a frozen form or what?

6. As you understand it, is (Awake) (Start) (Tang) orange juice, a substitute for orange juice, or what?

IF ANY CIRCLED "SUBSTITUTE" ON QUESTION 6, ASK:

7. What do you think (Awake) (Start) (Tang) (is) (are) made of?

IF AWAKE, START, OR TANG BOUGHT IN THE PAST 12 MONTHS (REFER TO QUESTION 3) ASK QUESTIONS 8 THROUGH 10 FOR EACH PRODUCT BOUGHT. IF RESPONDENT HAS BOUGHT NONE OF THESE PRODUCTS, GO TO QUESTION 11.

8. SHOW RESPONDENT CARD B. Which statement on this card best describes how often (Awake) (Start) (Tang) has been used in this household in the past 12 months? Just give me the number.

9. In the next twelve months, do you think you will be using (Awake) (Start) (Tang) more often or less often in this household than you have used it in the past twelve months?

IF "MORE OFTEN," "LESS OFTEN" OR "DON'T PLAN TO USE" ON QUESTION 9, ASK:

10. Why do you say that about (Awake) (Start) (Tang)?

Now, I'd like to ask you some questions about the different kinds of orange juice listed on this card:

11. SHOW RESPONDENT CARD C. Please tell me whether or not you have used each of these kinds of orange juice in your household in the past 12 months.

IF MORE THAN ONE KIND USED ON QUESTION 11, ASK:

12. Which of these kinds of orange juice have you used most often in the past 12 months?

13. SHOW RESPONDENT CARD B. Which statement on this card best describes how often orange juice has been used in this household in the past 12 months? Just give me the number.

Companies that make and sell orange juice products would like consumers like yourself to tell them what the ideal orange juice should be like with respect to such things as flavor, consistency, sweetness, and how it should be packaged. HAND RESPONDENT FORM AND PENCIL.

ON EACH ITEM BELOW, PLEASE CIRCLE THE NUMBER OF THE STATEMENT THAT BEST DESCRIBES THE IDEAL ORANGE JUICE FOR YOUR FAMILY. IF NONE OF THE STATEMENTS FIT, PLEASE WRITE IN YOUR OWN ANSWER ON THE LINE PROVIDED.

14. The ideal orange juice for my family should contain: (CIRCLE ONE NUMBER) 1. SOME ORANGE PIECES OR PULP 2. NO ORANGE PIECES--SHOULD BE SMOOTH 3. OTHER (WRITE IN)
15. The ideal orange juice for my family should be: (CIRCLE ONE NUMBER) 1. SWEETENED WITH SUGAR 2. SWEETENED WITH A LOW CALORIE SWEETENER 3. NOT SWEETENED 4. OTHER (WRITE IN)
16. The ideal orange juice for my family should be in this form: (CIRCLE ONE NUMBER) 1. CONCENTRATE--MUST ADD WATER 2. READY TO SERVE--NO NEED TO ADD WATER 3. OTHER (WRITE IN)
17. The ideal orange juice for my family should come in: (CIRCLE ONE NUMBER) 1. A FROZEN FORM 2. A NONFROZEN FORM 3. OTHER (WRITE IN)
18. The ideal orange juice package for my family should contain enough of the product so that I could prepare this amount of juice at one time: (CIRCLE ONE NUMBER) 1. LESS THAN A PINT 2. 1 PINT 3. 1-1/2 PINTS 4. 1 QUART 5. 1-1/2 QUARTS 6. 2 QUARTS 7. OTHER (WRITE IN)

PLEASE RETURN THE QUESTIONNAIRE TO THE INTERVIEWER.

19. I noticed that you said the ideal orange juice for your family should be (Answer on Question 15). Why do you say that?

ASK EVERYONE--HAND RESPONDENT RATING FORM (Shown at the end)

20. Now, I'd like your opinions about some orange juice and drink products. Please follow the instruction on the top of the form--read each of the statements on the left, then rate each product either excellent, very good, good, not so good or poor. You can do this by just circling a number on each line.

Now, I'd like to ask you some questions about the different kinds of grapefruit juice listed on this card.

21. SHOW RESPONDENT CARD C. Please tell me whether or not you have used each of these kinds of grapefruit juice in your household in the past 12 months.

IF MORE THAN ONE USED IN QUESTION 21, ASK:

22. Which of these kinds of grapefruit juice have you used most often in the past 12 months?

IF HAVE NOT USED ANY KIND OF GRAPEFRUIT JUICE IN PAST 12 MONTHS, ASK QUESTION 23, THEN GO TO QUESTION 26.

23. How does it happen that you don't use grapefruit juice in this household?

24. SHOW RESPONDENT CARD B. Which statement on this card best describes how often grapefruit juice has been used in this household in the past 12 months? Just give me the number.

IF GRAPEFRUIT JUICE USED LESS THAN ONCE A WEEK ON QUESTION 24, ASK:

25. How does it happen that you don't use grapefruit juice more often?

I'd like to get some idea about the likes and dislikes different members of your household have for various juice and fruit products.

26. First, I'd like some background information. Please tell me the sex and age of each individual living and eating meals here. Start with yourself--and then tell me about the others from the oldest to the youngest.

27. Now, including yourself, which members of your household like orange juice very much? Which members don't like orange juice at all? CIRCLE APPROPRIATE NUMBER ABOVE.

28. How about grapefruit juice, which members of your household like grapefruit juice very much? Which members don't like grapefruit juice at all?

Up to now, we've been talking about fruit juice. For the next few minutes I'd like to ask you some questions about the use of fresh oranges and grapefruit as fruit.

29. First, please tell me which members of your household like to eat fresh oranges very much. Which members don't like to eat oranges at all?

30. How about grapefruit, which members of your household like to eat fresh grapefruit very much? Which members don't like to eat grapefruit at all?

31. Have you used fresh oranges in the past 12 months for any purpose other than squeezing for juice or not?

IF ORANGES "NOT USED IN PAST 12 MONTHS," ASK QUESTION 32, THEN GO TO QUESTION 41:

32. How does it happen that you don't use oranges?

33. SHOW RESPONDENT CARD B. Which statement on this card best describes how often oranges have been used in this household in the past 12 months--other than for juice? Just give me the number.

34. SHOW RESPONDENT CARD D. Here is a list of ways other than for juice that fresh oranges might be used. In which of these ways are oranges used most often in this household? Just give me the number.

35. In which other ways do you use oranges?

Now let's talk for a moment about the different varieties of oranges which are available in some areas.

36. SHOW RESPONDENT CARD E. Which of these varieties of oranges have you heard of? Just give me the numbers. Do you know any others?

37. Which of these varieties of oranges have been used in this household in the past 12 months?

38. In what ways do you use (varieties used on Question 37) oranges? Any other ways?

39. In the stores where you usually shop, are the names of the different varieties of oranges displayed?

40. As you know, there are both advantages and disadvantages in using any food item. What would you say are the disadvantages of using fresh oranges as fruit--that is, what do you dislike about them? Anything else?

The next few questions are about fresh grapefruit.

41. Have you used fresh grapefruit in this household in the past 12 months for any purpose other than squeezing for juice, or not?

42. SHOW RESPONDENT CARD B. Which statement on this card best describes how often grapefruit have been used in this household in the past 12 months? Just give me the number.

Next, I'd like to talk a few minutes about fresh lemons.

43. First, have you used fresh lemons in this household in the past 12 months, or not?

IF LEMONS "NOT USED" IN PAST 12 MONTHS, ASK QUESTION 44, THEN GO TO QUESTION 52:

44. How does it happen that you don't use lemons?

45. About how many lemons do you use in this household in an average week during the winter? Just your best estimate.

46. About how many lemons do you use in this household in an average week during the summer? Just your best estimate.

47. SHOW RESPONDENT CARD F. Here is a list of some things people might look for when shopping for lemons. Which are the most important things you look for when buying lemons? Just give me the numbers. Any other things not on the list?

48. When shopping for lemons, how can you tell if a lemon looks juicy?

49. SHOW RESPONDENT CARD G. Here is a list of ways fresh lemons might be used. In which of these ways have you used fresh lemons in this household in the past 12 months? Just give me the numbers.

IF MORE THAN ONE WAY MENTIONED ON QUESTION 49, ASK:

50. In which ways have you used fresh lemons most often in the past 12 months?

51. Some people say there are disadvantages as well as advantages in using fresh lemons. Tell me the things you don't like about using fresh lemons (this way) (these ways)?

52. SHOW RESPONDENT CARD H. Now, thinking about fresh citrus fruits, here is a list of statements which might or might not be associated with different kinds of citrus fruits. Please read through the list keeping fresh oranges in mind. Every time you come to a statement that fits your ideas or impressions of fresh oranges, just tell me the number of it. Pick as many statements as you wish.

53. Still looking at this list, please read me the numbers of all the statements that fit your ideas or impressions of fresh grapefruit. Pick as many statements as you wish.

54. Once more, this time keeping fresh lemons in mind, please read me the numbers of all the statements that fit your ideas or impressions of fresh lemons. Pick as many statements as you wish.

As you know, there are different kinds of lemon products available for use in the home.

55. SHOW RESPONDENT CARD I. Which of these products, if any, have you used in this household in the past 12 months? Just give me the number.

IF ANY LEMON JUICE MENTIONED ON QUESTION 55, SHOW CARD G, AND ASK:

56. Looking at this list again, please tell me all the ways you have used lemon juice in the past 12 months.

57. What would you say are the advantages of using these kinds of lemon juice products--that is, what do you like about them? Anything else?

58. What would you say are the disadvantages of using these kinds of lemon juice products--what do you dislike about them? Anything else?

ASK EVERYONE--Here are a few questions about new products made from real oranges--some are available in some parts of the country and others are being considered.

59. SHOW RESPONDENT CARD J. Please look at the items on this list, then tell me which of these products you would be interested in. Just give me the numbers.

60. Why do you say you (would) (would not) be interested in INSTANT ORANGE JUICE?

61. Why do you say you (would) (would not) be interested in REAL ORANGE JUICE IN A SOLID FORM?

62. Why do you say you (would) (would not) be interested in ORANGE FLAVORED TOPPING?

Finally, just a few background questions and this will complete the interview.

63. Are you employed?

IF "YES" ON QUESTION 63, ASK:

64. Are you employed full or part-time?

65. What kind of work does the chief wage earner in your household do?

66. What kind of business is that--what do they make or do?

67. Offhand, do you remember how old you were when you got out of school?

68. What was the last grade you completed in school?

69. SHOW RESPONDENT CARD K. For statistical purposes, we need to know which group your family income is in. Please look at this card and tell me the letter that shows your family's total annual income for 1967 before taxes. You should count all kinds of income for every member of the family living here--such as wages, interest, dividends, net income for any business, etc.

CARDS AND RATING FORM USED IN THE INTERVIEWS

CARD A

Awake
Frozen pre-cooked waffles
Instant Breakfast
Toasters
Instant Oatmeal

Sucaryl
Start
Coffee-Mate
Tang
Preem

CARD B

Every day or almost every day
3 - 5 days a week
About once or twice a week

1 - 3 times a month
Less than once a month

CARD C

Fresh, home squeezed
Frozen concentrate

Canned--nonfrozen
Ready to serve chilled in bottle or carton

CARD D

Peeled or cut and eaten
Fruit salads/gelatin dishes
Fruit cup, compote

Cocktails or mixed drinks
Flavoring or seasoning for cooking
Decoration/garnish

CARD E

Navel
Murcott
Temple

Valencia
Hamlin

Jaffa
Parson Brown

CARD F

Looks juicy
Firmness--not too soft
Price
No bruises or soft spots
Thin skin
Thick skin
Pale yellow color

Bright yellow color
Brand name
Small size
Medium size
Large size
Smooth skin

CARD G

Lemonade
In tea (hot or iced)
In mixed drinks (alcoholic or other)
As a garnish or decoration
In cooking or preparing desserts

In cooking or preparing meats
In cooking or preparing seafood
In cooking or preparing vegetables
In salads or salad dressings
For medicinal purposes

CARD H

Good value for the money
Most adults like them
Low in calories
Good for snacks
Easy to store
Don't spoil easily
Good for health
Not messy to eat
High in vitamin C
Tastes good

Don't get tired of them
Easy to prepare
Good for dental health
Can be used in many ways
Good for weight watchers
Always sure of good quality when in season
Good for quick energy
Most children like them
Reasonably priced when in season

CARD I

Frozen concentrated lemonade--canned
Ready to serve lemonade, chilled in
bottle or carton
Bottled reconstituted lemon juice

Frozen reconstituted lemon juice--canned
Canned--nonfrozen lemon juice

CARD J

Instant orange juice--powder or crystals that will dissolve in water to make real orange juice
Real orange juice in a solid form that can be chewed or melted in the mouth
Orange flavored topping in pressurized cans for use on cakes, pastries or ice creams

CARD K

<u>Annually</u>		<u>Annually</u>	
A.	Under \$3,000	F.	\$7,000 - \$7,999
B.	\$3,000 - \$3,999	G.	\$8,000 - \$8,999
C.	\$4,000 - \$4,999	H.	\$9,000 - \$9,999
D.	\$5,000 - \$5,999	I.	\$10,000 - \$14,999
E.	\$6,000 - \$6,999	J.	\$15,000 Or More

RATING FORM

Products to be Rated

Tang
Start
Awake
Canned orange juice
Frozen concentrated orange juice
Fresh home squeezed orange juice

Characteristics to Rate Products On

A drink for children
Nutritional values--healthful
Convenience: ease of preparation and serving
Taste and flavor
Ease of storage
For snacks or after school drink
For breakfast
Cost--value for the money
A drink for adults

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